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DIṄNĀGA'S VIEWS ON REASONING (*SVĀRTHĀNUMĀNA*)

1.0. The aim of the following paper is to present an account of the views of the medieval Indian philosopher Diṅnāga on the nature of correct reasoning and its rôle in the acquisition of new knowledge. The intention underlying this presentation is to present information on Diṅnāga's philosophical system that may be of interest to historians of philosophy in general, and not only to specialists in Indian philosophy. In accordance with this intention I offer a brief account of Diṅnāga's place in Indian philosophy and an overall view of his system of epistemology in the first part of this paper, and in the second part I present an English translation of a section of the *Pramāṇasamuccaya*, his most important treatise on epistemology, namely the first half of the second chapter, which deals with his views on the nature and scope of reasoning.

1.1. DIṄNĀGA'S PLACE IN INDIAN PHILOSOPHY[1]

Diṅnāga was a Buddhist philosopher whose main period of literary activity was in the first half of the sixth century.[2] Although the early part of his career seems to have been devoted to producing exegetical tracts on various aspects of Mahāyāna Buddhist doctrine and polemical critiques of rival philosophical systems,[3] he came to be best remembered for his later work in the field of epistemology and logic, and in fact he is sometimes referred to as the founder of the medieval phase of Indian logic. He probably deserves this distinction, for his ideas, although rather crudely formulated by later standards, did provide the groundwork for many of the later developments in at least the Buddhist schools of logic in India; and insofar as his ideas and the developments of those ideas by his followers could not be ignored by non-Buddhist philosophers, his influence can be said to have been felt in all Indian logic until at least the beginnings of the 14th century.

Before taking a look at the contents of Diṅnāga's contribution to the development of logic in India, it may be worthwhile to consider the state of philosophy in India at the time when Diṅnāga entered the arena, and, having

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done this, to make a brief survey of the contents of Diṅnāga's most important treatise on logic and epistemology.

First, as for the philosophical literature of the Brahmanic tradition in the centuries preceding Diṅnāga, it had consisted almost exclusively of collections of aphorisms and their commentaries; several such collections of aphorisms existed, each of them probably representing an attempt to extract the essential doctrines from one of several vast bodies of religious literature or folk literature, such as the Vedas or Upaniṣads or the great Epics, and to present those doctrines in a more systematic form.[4] Each of these collections became the core of a different school of thought (or perhaps more accurately, of a different academic discipline, for being an adherent of one "school" did not necessarily prevent one from also being an adherent of another "school"). Essentially the same process had been going on in the Buddhist community, and several schools of Buddhist philosophy had developed, each having as its basis a different set of religious works that it accepted as best representing the teachings of the Buddha. With so many schools of thought flourishing in both the Brahmanic and the Buddhist traditions, and with each of them presenting doctrines that conflicted with at least some of the doctrines of other schools, there was naturally plenty of scope for debate among them. Although there did evolve from this debate-oriented milieu several different codes of conduct and sets of rules concerning those circumstances under which one side or the other lost a debate,[5] and although people did begin to assemble and classify examples of blunders in reasoning and blunders in the presentation of arguments in debate (without always carefully distinguishing between these two kinds of blunder), less progress was made during this early phase of Indian thought in the development of ideas concerning formal criteria for differentiating sound arguments from unsound ones, or for differentiating accurate cognitions from erroneous ones. Such ideas as we do find on these topics tend to be so hopelessly entangled with, on the one hand, the above mentioned rules of debate, and, on the other hand, with various theories of the soul and mind and other metaphysical doctrines,[6] that one very easily becomes frustrated in trying to extract such a thing as a set of principles of logic from these early writings. Moreover, in reading through arguments actually presented in polemical works, and even in early manuals of debate, we encounter numerous examples of fundamental errors in reasoning,[7] so that we are led to wonder whether the principles of valid reasoning were unknown to early

thinkers or whether they were simply disregarded whenever it seemed more convenient to do so.

It must not be imagined from what has been said thus far that Diṅnāga entered the arena of Indian philosophy and single-handedly shaped order out of chaos. Rather, what he did was to take the most promising features of each of several different beginnings made by his forerunners towards the development of a theory of valid cognition, clarified some poorly defined concepts and added one or two important innovations of his own. To unravel all the sources of Diṅnāga's final presentation of his system is well beyond the scope of this paper;[8] suffice it to say here that although he was a creative thinker, he owed a great deal to his forerunners and that perhaps one of his greatest intellectual assets was that his drawing upon other's ideas was relatively unrestricted by prejudice for or against any other system of thought.

1.2. THE *PRAMĀṆASAMUCCAYA*

The work in which Diṅnāga's thought is presented in its most mature form is his *Pramāṇasamuccaya*, a title that he gave it since it is for the most part a collection (*samuccaya*) of ideas that he had presented earlier in his career in various smaller works dealing with the problem of "the means of acquiring new knowledge" (*pramāṇa*). While it is true that much of the contents of this work had appeared in earlier works, the presentation of his ideas tends to be more orderly and rigorous here than in earlier works, and we also find ideas presented here that had not yet been articulated in works composed in his younger days. The book comprises six chapters, the contents of which are arranged as follows.

1. The first chapter introduces the general problem of the means of acquiring new knowledge, stating that there are essentially two mutually opposed aspects of things that can enter our knowledge, namely a particular aspect that, being a physical feature of the world existing outside the mind,[9] can be cognized only through the physical sense-faculties, and a general aspect that, being conceptual in nature, can be cognized only by the intellect. That form of cognition that consists in the acquisition of information about particulars is called perception or sensation (*pratyakṣa*), and it is the topic of the first chapter. Diṅnāga first presents his own views on perception, then criticizes in turn the views on perception of his forerunner Vasubandhu, the

Nyāya system, the Vaiśeṣika system, the Sāṃkhya system and the Mīmāṃsā system. An English translation of this first chapter has been published along with an informative introduction and a very thorough set of footnotes by Hattori (1968).

2. The question of how we can acquire knowledge about objects not within the range of the physical senses, and the nature of that knowledge, is taken up for discussion in the second chapter. As with the first chapter, it is divided into a presentation of Diṅnāga's own views followed by a criticism of alternate views. A Japanese translation of the part dealing with Diṅnāga's own views has been published by Kitagawa (1965) pp. 73–125.

3. The topic of the third chapter is how knowledge that we have acquired ourselves can be imparted to others. This chapter deals in particular with the proper presentation of argument in formal debate. A Japanese translation of the first section of this chapter has also been published by Kitagawa (1965) pp. 126–238.

4. The fourth chapter deals with the role of the example in the presentation of arguments in formal debate. Kitagawa (1965) pp. 239–281 has published a Japanese translation of the first half of this chapter, too.

5. Chapter five treats a variety of topics connected with the relation between language and that which is communicated through it. The essential point of this chapter is to show that language conveys knowledge in the same way and of the same nature as that which is conveyed by an inferential indicator (*liṅga*),[10] and that therefore cognition involving verbal communication is essentially the same as inferential cognition. There is also a considerable amount of discussion of the nature of verbal apposition and the qualification of one word by another, on which matters Diṅnāga presents his own views and criticizes alternate theories. And finally Diṅnāga endorses the view of the grammarian Bhartṛhari that the sentence rather than the individual word is the basic meaning-bearing unit of language.[11] No translation of this chapter into a modern language has yet been published.

6. The final chapter deals again with an aspect of formal debate, namely the refutation of the opponent's position and errors which if committed render refutation invalid. The first part of this chapter, dealing with Diṅnāga's

own views on the matter, has been translated into Japanese by Kitagawa (1965) pp. 282–351.

We can see in the above brief summary of the topics dealt with and the arrangement of those topics in the *Pramāṇasamuccaya* two distinct features of Diṅnāga's thought, features that were picked up and developed by subsequent generations of Buddhist logicians. The first of these is the differentiation of perception from inference on the basis of the kinds of objects cognized by them (about which more will be said below), and the second is his clear differentiation between inference as a process of acquiring new knowledge (*svārthānumāna*) and inference as a process of presenting knowledge to others (*parārthānumāna*), a distinction that had not always been clearly made before Diṅnāga's time.[12] What this distinction amounts to is making a step towards treating the epistemological issue, of how new knowledge is acquired and what evidence is capable of generating certainty, as a separate issue of inquiry, one that is not to be confounded on the one hand with metaphysical commitments, nor on the other hand with a mere set of conventions concerning what is allowable in formal debate. Let us now look at Diṅnāga's system in more detail.

1.3. A SUMMARY OF DIṄNĀGA'S VIEWS ON EPISTEMOLOGY

1.31. *His View of Perception*

It has been mentioned above that Diṅnāga's point of departure in the first chapter of the *Pramāṇasamuccaya* is to draw a radical distinction between two kinds of things that can be cognized.[13] On the one hand there is that which is immediately present to the physical senses, and on the other hand there is that which is not present to the senses but which nevertheless enters into our cognition. The cognition whose content is that which is present to the senses is called perception (*pratyakṣa*), and that which is present to the senses is called by Diṅnāga a *svalakṣaṇa*[14] (meaning roughly "that whose features belong only to itself"), which I shall call throughout the rest of this paper a "particular." Now according to Diṅnāga, the moment we begin to synthesize those particulars into multi-propertied "objects" or to identify those particulars as individual instances of some class, we are engaging in a cognitive action of a different sort; we are now thinking, or reasoning, or making judgments.[15] When the mind has assigned a percept some name or

attributed to it some class-property, then it is no longer dealing just with what is at hand but with a shared something, and most of the things that share that something are objects remembered from the past or anticipated in the future or in some other way not present to the senses. And so, on the grounds that thinking or judgment (*anumāna*) is a complex cognitive act having as its content this shared or generalized aspect (*sāmānyalakṣaṇa*) of what is not present to the senses, Diṅnāga regards it as a cognitive process of a sort that is essentially different from sensation, which is a simple cognitive act dealing only with what is at hand. Now just one further thing to point out about this distinction between sensation and judgment is that for Diṅnāga it would make no sense to speak of a sensation as true or false, accurate or inaccurate, for it is only when we analyze, classify, name and assign properties to things that the question arises as to whether we have analyzed properly, classified correctly, given a thing a suitable name or assigned it the right properties.[16]

Further light may be shed on how Diṅnāga distinguished sensation or perception from judgment by a quick review of which kinds of objects of cognition he explicitly said could and which he said could not be regarded as percepts. It has already been noted that the objects in the fields of operation of the five physical sense-faculties are regarded by Diṅnāga as percepts. But in addition to these five physical sense-faculties, Diṅnāga, as was the custom in contemporary Indian theories of the psychology of cognition, also acknowledged a sixth sense-faculty, namely the mind (*manas*). The objects in the mind's field of operation are, according to this view, mental events of all types. Thus all mental events, even those that are not perceptions, are percepts. Accordingly, Diṅnāga classifies all acts of cognition themselves as percepts, because a cognition itself is known directly even if the object of that cognition is not.[17] Similarly, all mental events of the type that we might call attitudes and moods are percepts, for they too are the objects of direct cognition. And finally the object of any cognition that is entirely free of the preconceptions arising from previous experience or education is regarded as a percept; such pure cognition was commonly believed in Indian philosophical systems to be within the capacity of yogins who could directly cognize the nature of things just as they are without the bias of former intellectual training and free of all expectations based on prior experience.[18]

On the other hand, certain kinds of cognitive acts cannot be considered as perception, nor can the objects cognized in those acts be called percepts.

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Diṅnāga specifically mentions the following cases.[19] Ruled out as acts of perception are all erroneous cognitions, not because they are erroneous but because they are complex cognitive acts involving the superimposition of mental constructs upon percepts. Similarly, all cognitions that involve conventions[20] (e.g. conventions of speech such as are shared by a linguistic community, or personal conventions, i.e. habits informed through our past experience) are ruled out as acts of perception, for they too involve superimposition of concepts upon percepts (albeit correctly). Further, the formation of such attitudes towards objects as desire or aversion is an act of judgment rather than an act of perception, for this act involves superimposing upon a percept something it does not intrinsically possess, namely value or repugnance.[21] And finally, Diṅnāga argues that while the visual field, the audible field etc. are percepts, and may be regarded as data, when these data are attributed by the mind as various properties belonging to a subject or property-locus (*dharmin*), this act of attribution is not an act of perception, nor is the property-locus a percept.[22]

1.32. *The Theory of Self-Cognizing Cognitions*

It was said above that all cognitive acts are percepts, since cognitive acts constitute the field of operation of a sense-faculty, namely the mind. But actually the matter is not quite this straightforward in Diṅnāga's system, for the mind has a very different status from that of the other sense-faculties; whereas the five physical sense-faculties are regarded as separate entities that exist apart from the objects they cognize, the mind turns out in Diṅnāga's view to be merely an aspect of the cognitions that putatively constitute the mind's field of operation. For Diṅnāga argues that the cognitive act is aware of itself, which amounts to saying that the instrument of the act of cognition (the mind), the act of cognition itself (the mind's object) and the awareness of that cognition are in fact a single entity. Closely related to this doctrine is his doctrine that a cognition and the means of acquiring that cognition are also a single entity. These two theses form the subject matter of five verses and their commentary in the first chapter of the *Pramāṇasamuccaya,*[23] and I will give here only an outline of Diṅnāga's argument as I understand it.

First let us begin with an analysis of a single datum, namely the fact that a cognition has occurred with a given content. Let us symbolize this datum: $K(c)$. When we think about this datum $K(c)$ we are inclined, says Diṅnāga, to try to analyze it into three factors: (1) an object that has been cognized,

i.e. the content of the cognition, the c of $K(c)$. (2) consciousness itself, the K of $K(c)$, and (3) an activity, performed by consciousness, of grasping or apprehending the object that becomes its content. When we analyze our single datum $K(c)$ in this way, we naturally regard the activity of apprehending as an instrumental cause, which we call "a means of cognition" (*pramāṇa*); and we regard $K(c)$, the cognition of the object, as an effect of that means of cognition (*pramāṇa-phala*), and we call this "knowledge" (*jñāna*). What prompts us to make this kind of analysis is the fact that when we look back at a cognition, we can recall two things, namely c the object that was cognized, and $K(c)$ the very fact that we were aware of the object. We may symbolize the recollection of the object itself $R(c)$ and the recollection of the cognition $R(K(c))$. Now given these two recollections, $R(c)$ and $R(K(c))$, it is natural to assume that each of them is the recollection of a distinct cognition, in other words that $R(c)$ is a recollection based on $K(c)$ and $R(K(c))$ is a recollection based on $K(K(c))$.

But the above assumption of a double cognition, $K(c)$ and $K(K(c))$, does not, argues Diṅnāga, stand up well under close examination. For if we accept the principle that any given cognition requires a second cognition to know it, we are led into an infinite number of distinct cognitions, i.e. (1) $K(c)$ followed by (2) $K(K(c))$ followed by (3) $K(K(K(c)))$, and so on indefinitely. To avoid this infinite regress Diṅnāga suggests it is preferable to say that cognition of an object requires no second cognition to know it. Cognition of an object and awareness of that cognition is a single act. Cognition is awareness both of its object and of itself. $K(c)$ is the same as $K(K(c))$. Moreover, recollection of an object $R(c)$ and recollection of an awareness $R(K(c))$ are just two recollections about different aspects of a single entity $K(c)$, cognition-cum-content, which appears not to be further reducible into the components K and c.

Now in the above attempt to think about $K(c)$ by analyzing it into three factors, one of the factors mentioned was an instrumental cause of cognition whereby K apprehended c. According to Diṅnāga's view there actually turns out to be no such instrumental cause, but it is still not entirely meaningless to talk in terms of an instrumental cause of a cognition insofar as, if $K(c)$ is self-cognizing, we may consider $K(c)$ to be its own instrumental cause. Therefore, says Diṅnāga, the instrumental cause of a cognition (*pramāṇa*) is the same entity as the resultant cognition (*jñāna* = *pramāṇa-phala*). Thus not only is every cognition, regardless of whether it is a perception or a judgment, a percept, but insofar as it cognizes itself it is also a perception. This

conclusion of Diṅnāga's, that the terms *pramāṇa* and *pramāṇaphala* refer to two aspects of the same entity and that a cognition cognizes itself, quite understandably drew a considerable amount of criticism from Uddyotakara and later Naiyāyikas; in the Buddhist camp, however, these doctrines became a matter of orthodoxy, probably because they suited very well both the fundamental Buddhist dogma that there is no experiencing agency, such as a soul, over and above the fact of experience itself,[24] and the decidedly idealistic trend of the Vijñānavāda school of Buddhism with whose doctrines the later Buddhist logicians tended to be very sympathetic.

1.33. With the above account of topics treated in the opening part of the first chapter of the *Pramāṇasamuccaya* as background, we can now turn to a discussion of some of the topics treated in the second chapter of that work. In broad outline at least, I will discuss the topics in the same order as Diṅnāga discusses them.

1.331. *Further points of difference between perception and inference.* As has already been indicated, the principle distinction between perception or sensation and inference or judgment is that the former is a process of cognizing objects present to the senses while the latter is a process of cognizing objects not present to the senses. The specific properties of things can be cognized through perception, while inference gives us no cognition of specific properties but only of general properties; to use the stock example of inferring fire from smoke, the resultant cognition can only be the general knowledge that there is some fire in a certain place, but it can never be knowledge of which fire it is or what sort of fire it is. And conversely, perception gives us no general information; perception gives us only the most simple cognition of exactly the thing at hand, but it gives no further information as to what this thing has in common with other things, i.e. of which classes this sensed object is a member, what this sensed thing is called etc.[25] Now this lead to a further distinction between perception and inference, namely that perception is quite private in the sense that a perceptual cognition cannot be shared by communicating it to another person.[26] An inferential cognition, on the other hand, can be communicated, for it is possible to tell some other person in a general way that which we know in a general way, and he will understand in a general way what we are talking about. The structure of the thought process and the nature of the inferentially derived cognition are essentially the same

whether communicated to other people or not. It is on these grounds that Diṅnāga treats verbal communication as a special case of inference rather than, as was generally the case in other schools of Indian philosophy, as a means of acquiring knowledge distinct from inference. But since communicating our cognitions to others, especially when those others would prefer not to believe what we are communicating to them, requires special techniques and is governed by certain conventions, Diṅnāga feels this aspect of inference deserves chapters in his book separate from the chapter that deals with the basic structures of inferential cognition. Thus chapter two of the *Pramāṇa-samuccaya* deals with these basic structures, chapter five shows that those same basic structures are found in verbal communication, and chapters three, four and six deal primarily with the conventions of debate and show how the basic structures of inference underlie those conventions.

1.332. *The object of inference*: *that about which new knowledge is acquired*. If inference is regarded as a means of acquiring new knowledge, the question naturally arises as to what the content of that new knowledge is. In dealing with this question, Diṅnāga considers two answers that one might put forth, rejects them as inadequate, and offers a third answer of his own. The first position he considers is that from the observation of one property we gain knowledge simply of a second property. Most likely what Diṅnāga had in mind in discussing this position was that style of inference that deals primarily with causes and their effects, whereby a cause can be inferred from the observation of its effect;[27] thus in this view of inference the new knowledge would be that of the cause. But Diṅnāga rejects this view on the grounds that there is in fact nothing new learned in this case. It will be recalled that Diṅnāga has pointed out that, in the case of inferring fire from smoke for example, all we can acquire is a general knowledge of fire anyway; but we already had a general knowledge of fire before we made the observation of smoke, so this is nothing new. And if we don't already have a general knowledge of fire, it can only be because we have never before experienced it, and if that is the case, then the observation of smoke will not generate any cognition whatsoever of fire.

The second position that Diṅnāga considers is that the object of inference is the relation of the inferred property to its locus. That is, we already know smoke-in-general and fire-in-general and the relation between them, but we learn of the relation between fire and the locus of smoke. Thus this relation

is the object of inference. The general idea of this view is similar to Diṅnāga's view, but he rejects this formulation on the grounds that when we make an inference our knowledge of the relation between smoke-in-general and fire-in-general has the form "Every *locus* of smoke is a *locus* of fire." Given this universal proposition and the proposition derived from an observation "This is a locus of smoke," we can derive "This is a locus of fire." Thus in Diṅnāga's view it is just the locus of the inferred property that is the object of inference. The *relation* between inferred property and locus cannot be the object of inference, because it is not a locus of fire or smoke; rather, fire and smoke are regarded as the loci of the relation between them.[28]

1.333. *The three criteria of successful evidence.*

The next question to be dealt with, one that naturally arises from all that has been said so far, is this: under what conditions can the cognition of a second property in a given locus be said to follow legitimately from the observation of a first property in that locus?

According to the logical tradition that Diṅnāga belonged to, a piece of evidence offered in an argument as a reason for some conclusion could be considered proper evidence for that conclusion only if it met three criteria. Diṅnāga adapted this test for proper evidence in argumentation, where one is trying to convince others, to the case of epistemology, where one is trying to determine for himself the correctness of a tentative judgment concerning the location of a "hidden" property in a given locus.

Let us first examine the classically formulated three criteria of proper evidence in debate. In this discussion, "proper" evidence is to be understood as that evidence which points only to the conclusion stated in debate and not to that conclusion's negation. The conclusion stated in debate has the form "A certain property occurs in a given locus," or some such expression that though syntactically different expresses the same state of affairs; for example, "The fact of being black is in the locus cat." and "The property 'that it is black' is in the locus cat." and "Blackness is in the cat." and "The cat has blackness." and "The cat is black." are all expressions of the same state of affairs, and expressions of these forms will be used interchangeably throughout this paper to refer to the fact or supposition of a certain property's occurrence in a given locus. In what follows I shall refer to that certain property whose occurrence in a given locus is being argued as the "argued property" (*sādhya*) and to that given locus as "object of inference" (*anumeya*

or *pakṣa*). The expression "evidence" (*hetu* or *liṅga*) is to be understood to refer to a second property which is different from the argued property. This evidence can be considered proper only if all of the three following criteria are met:

> *Criterion One*: The evidence must be a property of the object of inference.
> *Criterion Two*: The evidence must be known to occur in other loci (i.e. other than the object of inference) in which the argued property occurs.
> *Criterion Three*: The evidence must not be known to occur in other loci in which the argued property is absent.

In the context of debate, Criterion One rules out the introduction of irrelevant evidence, i.e. evidence that has no connection with the subject of the argument. Criterion Two rules out two kinds of evidence. First it rules out evidence that points only to the negation of the stated conclusion.[29] And secondly it rules out as proper evidence those properties that occur in no other locus than the object of inference.[30] And Criterion Three rules out as proper evidence that which could point either to the stated conclusion or to its negation. Those are the three criteria of proper evidence as Diṅnāga inherited them.

1.3331. *The wheel of evidence* (*Hetucakra*). Early in his career as a logician, Diṅnāga seems to have noticed that even in those cases in which Criterion One of proper evidence was met, Criteria Two and Three, as formulated above, could be met either "completely" or "partially". That is, the evidence could be found either in all loci in which the argued property occurs, or only in some. And it could be found either in all those loci in which the argued property was known to be absent, or only in some. In what was probably his earliest logical work[31] he arranged in tabular form these possibilities of how a property that is evident in the object of inference can be distributed in loci in which the argued property is present and absent. The structure of the table and the conclusions drawn from it are as follows.

Position One: Suppose Criterion Two is completely met and Criterion Three is completely violated. That is, the evidence occurs in every known locus of the argued property and also in every known locus in which the argued property is absent. In this case it is impossible to determine from the

Distribution of evidence in loci of argued property		Distribution of evidence in loci of argued property's absence: present in all	Distribution of evidence in loci of argued property's absence: absent in all	Distribution of evidence in loci of argued property's absence: present in some
	present in some	Position One	Position Two	Position Three
	absent in all	Position Four	Position Five	Position Six
	present in all	Position Seven	Position Eight	Position Nine

presence of the evidence in a given locus whether the argued property is present or absent in that locus, because the evidence is promiscuous, i.e. not restricted (*vyabhicārin, anaikāntika*) to just one set of loci. Hence that evidence is inconclusive with respect to the argued property's presence in a given locus.

Position Two: Suppose Criterion Two is completely met and Criterion Three is completely met. That is, the evidence occurs in every known locus in which the argued property is present and it is absent in every known locus in which the argued property is absent. In this case, the evidence is restricted to loci in which the argued property is present, therefore it is reasonable to conclude from the presence of the evidence in a given locus that the argued property is not absence from that locus.

Position Three: Suppose Criterion Two is completely met while Criterion Three is only partially met. That is, the evidence is present in every known locus of the argued property and absent in some but not all of the loci in which the argued property is absent. In this case, as in Position One, the evidence is not restricted to just one set of loci.

Position Four: Suppose Criterion Two is completely violated and Criterion Three is also completely violated. That is, the evidence is absent in every known locus in which the argued property is present and it is present in every known locus in which the argued property is absent. In this case, the evidence is restricted to those loci in which the argued property is absent. Hence in citing it as evidence for the conclusion that the argued property is present in a given locus, one is in fact giving evidence for the negation of his stated conclusion.

Position Five: Suppose Criterion Two is completely violated and Criterion Three is completely met. That is, the evidence is absent in every locus in which the argued property is present and also absent in every locus in which the argued property is absent. In this case, the evidence is restricted to exactly one locus, namely the object of the inference. But it leads to no conclusions as to whether the argued property is present or absent in that locus.

Position Six: Suppose Criterion Two is violated completely and Criterion Three is only partially met. That is, the evidence is absent in every locus in which the argued property is present and absent in some but not all loci in which the argued property is absent. In this case, as in Position Four, the evidence is restricted to those loci in which the argued property is absent.

Position Seven: Suppose Criterion Two is partially met and Criterion Three is completely violated. That is, the evidence is present in some but not all loci in which the argued property is present, but it is present in all loci in which the argued property is absent. In this case the evidence is not restricted to loci of the argued property, so, as in Position One, it is inconclusive with respect to that argued property's presence in a given locus.

Positive Eight: Suppose Criterion Two is only partially met and Criterion Three is completely met. That is, the evidence is present in some but not all loci in which the argued property is present, and it is absent in all loci in which the argued property is absent. In this case the evidence is restricted to loci in which the argued property is present. Hence, as in the case of Position Two, it is reasonable to conclude from the presence of the evidence in a given locus that the argued property is not absent from that locus.

Position Nine: Suppose Criteria Two and Three are both partially met. That is, the evidence is present in some but not all loci in which the argued property is present, and it is absent in some but not all loci in which the argued property is absent. In this case the evidence is not restricted to loci

of the argued property. Evidence distributed in loci in the manner of Position Nine is thus inconclusive.

As can be seen from the above, Diṅnāga concluded that in order for a property that occurs in the object of inference to be proper evidence, Criterion Three must be met completely, and if this were so, then Criterion Two could be met only partially and still yield proper evidence. This led to a reformulation of the second two of the three criteria as Diṅnāga received them. The refined formulations can be construed as follows:

> *Criterion Two*: The evidence must be known to occur in *at least one* other locus (i.e. other than the object of inference) in which the argued property occurs.
>
> *Criterion Three*: The evidence must not be known to occur in *any* other loci in which the argued property is absent.[32]

These, then, are the reformulated criteria for proper evidence in the context of argument, where one is systematically communicating to another person the conclusions one has reached from certain observations. Their application to privately reached judgments, or inference for oneself as it is called, involves only substituting in the above formula the word "judged" for "argued". This will give us the formula for judgments derived from the observation of evidence. A more general formula for the test of the reliability of any judgment of the form "a certain hidden property is in a given locus" might in Diṅnāga's system of epistemology appear as follows.

A judgment is reliable only if the following three conditions are met:

(1) There exists in the object of judgment (i.e. the given locus) a second property, which is different from the judged property (the hidden property) and which is furthermore evident to the person making the judgment. (This second property will hereafter be called "the evidence".)

(2) There exists at least one other locus, different from the object of judgment, in which the evidence and judged property are both known to occur.

(3) There is no known locus in which the evidence occurs but the judged property does not occur.[33]

1.332. *The function of examples*. The structure of Diṅnāga's *Hetucakra*

suggests that he had arrived at an inchoate understanding of some principles of quantificational logic. First of all, it appears that he understood the validity of a form of reasoning that bears resemblance to the syllogism of traditional European logic. A correct line of reasoning in Diṅnāga's scheme is one that has the form "All loci of the evidence are loci of the argued property. This is a locus of the evidence. Therefore, this is a locus of the argued property." (I shall refer to this scheme as the Diṅnāgan reasoning scheme). Moreover, there is in the structure of the *Hetucakra* evidence of an understanding of the circumstances under which the universal proposition "All loci of the evidence are loci of the argued property" either follows from or contradicts certain other universal or particular propositions; where these other propositions come from we shall see below.

In his presentation of the *Hetucakra*, Diṅnāga offers nine sample arguments, one to illustrate each of the nine possible distributions of the evidence in the loci possessing and in the loci lacking the argued property. These nine samples are as follows.

Position	Object of argument	argued property	evidence
1	sound	that it is permanent	that it is knowable
2	sound	that it is impermanent	that it is produced
3	sound	that it is manmade	that it is impermanent
4	sound	that it is eternal	that it is produced
5	sound	that it is permanent	that it is audible
6	sound	that it is permanent	that it is manmade
7	sound	that it is not manmade	that it is impermanent
8	sound	that it is impermanent	that it is manmade
9	sound	that it is permanent	that it is incorporeal

Thus the formal presentations of these arguments would be statements such as "Sound is permanent, because it is knowable", "Sound is impermanent, because it is produced" etc.

Now it was customary in Indian debate to offer one example of some locus, other than the object of the argument, in which the argued property and the evidence both occur. This was called a positive example. It was also customary to offer a negative example, i.e. a locus in which both argued property and evidence were absent. Diṅnāga follows this custom, adapting it, however, to a slightly new purpose, namely to that of giving representative

instances of universal or existential propositions[34] – which of these two types of proposition the example stood for depended on the position of the *Hetucakra* under consideration.[35] For example, in those positions in which the evidence is present in *all* loci in which there is presence of the argued property, *one* example is given of such a locus; this example can be seen as generating the proposition "All loci of the argued property are loci of the evidence." But in those positions in which the evidence is present in *some* loci of the argued property but absent in other such loci, *two* examples are given, one for each case. These case be understood as generating respectively the propositions "Some loci of the argued property are loci of the evidence" and "Some loci of the argued property are not loci of the evidence." And finally, in those positions in which the evidence is absent in all loci of the argued property, one example is given, which can be understood as generating the proposition "No locus of the argued property is a locus of the evidence."

Let us now look at the examples given for each of the above nine arguments and see what propositions can be generated from the combination of examples and position in the *Hetucakra*. In each case below, the example is a locus of the property represented by the italicized phrase in the proposition. If it is a locus of the argued property, it is marked (+); if it is not a locus of the argued property, it is marked (–). The evidence or its negation is represented by the predicate of the proposition.

Position	Examples	Propositions generated
1	ether (+)	All *that is permanent* is knowable.
	pot (–)	All *that is not permanent* is knowable.
2	pot (+)	All *that is impermanent* is produced.
	ether (–)	Nothing *that is not impermanent* is produced.
3	pot (+)	All *that is manmade* is impermanent.
	lightning (–)	Some things *that are not manmade* are impermanent.
	ether (–)	Some things *that are not manmade* are not impermanent.
4	ether (+)	Nothing *that is eternal* is produced.
	pot (–)	All *that is not eternal* is produced.
5	ether (+)	Nothing *that is permanent* is audible.
	pot (–)	Nothing *that is not permanent* is audible.

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6	ether (+)	Nothing *that is permanent* is manmade.
	pot (–)	Some things *that are not permanent* are manmade.
	lightning (–)	Some things *that are not permanent* are not manmade.
7	lightning (+)	Some things *that are not manmade* are impermanent.
	ether (+)	Some things *that are not manmade* are permanent.
	pot (–)	All *that is manmade* is impermanent.
8	pot (+)	Some things *that are impermanent* are manmade.
	lightning (+)	Some things *that are impermanent* are not manmade.
	ether (–)	Nothing *that is permanent* is manmade.
9	ether (+)	Some things *that are permanent* are incorporeal.
	atom (+)	Some things *that are permanent* are not incorporeal.
	action (–)	Some things *that are not permanent* are incorporeal.
	pot (–)	Some things *that are not permanent* are not incorporeal.

A study of the above examples and their attendant propositions will show that positions 3, 6 and 9 of the *Hetucakra* contain propositions of the form "Some loci in which the argued property is absent are loci of the evidence," which can be converted to "Some loci of the evidence are not loci of the argued property." Since this is a contradiction of the universal proposition "All loci of the evidence are loci of the argued property," the universal proposition cannot follow from positions 3, 6 or 9; and if we cannot derive that universal proposition, we lack the first premiss in the correct line of reasoning in Diṅnāga's scheme.

Similarly, in positions 1, 4 and 7 of the *Hetucakra* we find propositions of the form "All loci in which the argued property is absent are loci of the evidence" which by conversion *per accidens* yields "Some loci of the evidence are not loci of the argued property." Thus positions 1, 4 and 7 also contain propositions contradictory to "All loci of the evidence are loci of the argued property."

Position 2 and 8 contain the propositions of the form "No locus in which the argued property is absent is a locus of the evidence" which is equivalent

to "All loci of the evidence are loci of the argued property." Hence the first premiss of the Diṅnāgan reasoning scheme can be derived from the propositions generated by the negative examples in these positions.

Position 5 also contains the proposition "No locus in which the argued property is absent is a locus of the evidence". But it also contains a proposition generated by the positive example: "No locus of the argued property is a locus of the evidence." Now if the proposition "There is at least one locus of the evidence" is true (and it is true whenever the evidence has been observed in the object of the argument), then the two universal propositions generated by the positive and negative examples cannot both be true. But there is no means of deciding from these propositions alone which is false; some further evidence must be introduced to decided the matter.

The above discussion is intended only to show that underlying Diṅnāga's system of logic there seems to have been at least a dim awareness of logical principles similar to those worked out by traditional European logicians as the logic of propositions. But it should be pointed out that neither Diṅnāga nor his successors in the Buddhist tradition of logic ever worked out an explicit statement of these principles of formal logic, nor did they develop a vocabulary of technical terms corresponding to such terms in European logic as "universal proposition", "particular proposition", "singular proposition" etc. But rather, they worked out a different set of technical terms that were suited to the task of describing the various kinds of relations that might obtain between one property and another or between a property and its locus. We shall turn to a discussion of these relations in the next sections.

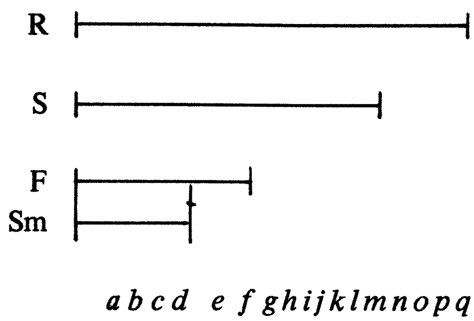
1.334. *On promiscuity (vyabhicāra) and restriction (avyabhicāra)*

The most important principles in Diṅnāga's sytem of relations are to be found in kārikās 12 through 25 of the second chapter of his *Pramāṇasamuccaya*. Here he begins with the discussion of a property used as evidence for the occurrence of a second property in the same locus. Now in Diṅnāga's system, a "property-locus" is a conceptual construct, a useful fiction of analysis. Hence that which is a property of a certain property-locus can in turn be regarded as a locus of another property or properties. For example, smoke can be regarded as a property of a smokey locus, but it can also be regarded as the locus of a number of properties of its own. Some of these properties of smoke will occur in many loci, some in only a few – and one of the properties of the smoke that we perceive in a given locus will be unique to

that one instance of smoke and to that one locus of smoke. Now the question arises as to which of these many properties located in a locus that is in turn regarded as an evident property in its locus contribute to knowledge of some other property or properties in that locus of the evident property.

In answering this question it is established first of all that the unique property, the particularity of the locus, can by itself lead to no further cognitions. It must be assisted by recollections of past experience, which provide associations pertinent to that particular; that is to say, we identify the particular or classify it according to past experiences. The process of identification is itself rather complex, involving a series of judgments consisting in attributing increasingly narrow classes to the object at hand: "Insofar as it is not unreal, it is a reality. Being a reality, insofar as it is not an action or a quality, it is a substance. Being a substance, insofar as it has qualities that belong to smoke but not to other substances, it is smoke." And so on.[36] Now in this process of identification, a number of properties have been associated with the particular, properties expressible by such phrases as "that it is real", "that it is a substance", "that it is smoke" etc. But which of these properties is significant when their locus is itself regarded as the property of the subject of an inference?

In answer to the above question, Diṅnāga says that of the properties of the evidence, only those that are not promiscuous, i.e. only those that do not occur in loci other than loci of the judged property, are relevant to the inference of that judged property. As for the properties of the judged property, only those that occur in every known locus of the judged property can be cognized through the evidence. This can be represented visually by diagram. In the diagram below, the small letters (*a, b, c . . . q*) represent particular loci. The symbols (R, S, F and Sm) stand for generic properties or judgments; the symbol "R" stands for a property expressible by such words or phrases as "reality", "that it is real", "that it is the locus of reality" etc.; "S" stands for a property expressible as "that it is a substance" etc.; "F" stands for the property expressible as "that it is fire" etc.; "Sm" stands for the property expressible as "that it is smoke" etc. The extension of these properties will be indicated by a line (├───┤) such that whatever occurs below that line in the diagram is a locus of the property whose symbol is written to the left of that line. (Although in this diagram the line beside "Sm" is drawn slightly below the line beside "F" to aid the eye, it should be read as going through the same points of the line beside "F" as far as *d*.)



In the above diagram loci *a, b, c* and *d* are loci of smoke and fire, loci *e* and *f* of smokeless fires; loci *g, h, i, j, k* and *l* may be loci of any smokeless and fireless substances such as dogs, pots, chewing gum, alarm clocks etc. Let us furthermore imagine some more specific attributes, e.g. that locus *a* is the locus of red flames, a temperature of 220°C, and thick black smoke; locus *b* of yellow flames, a temperature of 205°C, and wispy white smoke; and locus *e* of blue flames, a temperature of 240°C, but no smoke.

Now suppose we observe just the thick black smoke at locus *a*. That smoke comes to be regarded by the mind as the locus of several properties, supplied by past experience. Among those properties is R, that it is a reality. But this property occurs not only in loci (*a . . . f*) but also in dogs, pots, the quality of smelling sweet and the act of sneezing, any one of which might also occur at locus *a*, but we cannot be sure on the basis of R which of these other things do and which do not occur there. Another property supplied to what we observed at locus *a* is property S, that it is a substance. This narrows down the field somewhat, for it excludes the act of sneezing and the quality of smelling sweet as things *necessarily* at locus *a*; there *may* be a sweetsmelling dog sneezing at locus *a*, but property S provides no criterion by which it is possible to decide whether there is or not. Yet a third property supplied by experience to what we saw at locus *a* is Sm, that it is smoke. Of all the properties at locus *a* it is this property Sm alone that is capable of being known not to occur at loci where property F is absent; whether or not the cognizer of Sm knows that Sm does not occur at loci where F is absent depends on the richness of his past experiences and on how well he has paid attention to what he has seen. Thus of all the properties at locus *a*, it is just this one property Sm that has a potential for playing a rôle in the inference of property F.

Concerning property F, in inferring it we can also infer that it is the locus of S and R, for S and R are found at every fire; but we can infer nothing

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more specific than F such as the fact of red flames or the temperature of 220°C, since F occurs in loci where those properties do not occur. The flames may be red but are not so necessarily.

Now this notion of promiscuity, the condition of one property *x*'s being able to occur in loci in which another property *y* is absent, is expressed in Sanskrit by the abstract noun *vyabhicāra* or by the finite verb *vyabhicarati*. "*x* can occur in loci other than those in which *y* occurs" is expressed by a sentence of the form "$x^1 y^5$ *vyabhicarati*" or "$x^6 y^5$ *vyabhicāraḥ*" where the superscript 1, 5 and 6 stand for the Sanskrit case-endings of the nominative, ablative and genitive respectively. But if *x* is not promiscuous with respect to *y*, i.e. if *x* is restricted to loci of *y*, this restriction is expressed by the terms *avyabhicāra* or *na vyabhicarati*. Thus all that we have said so far concerning which properties can be inferred from which evidence can be expressed as follows:

If "$x^1 y^5$ *vyabhicarati*", then *y* cannot be known for certain from knowledge of *x*.

If not "$x^1 y^5$ *vyabhicarati*", then *y* can be known for certain from knowledge of *x*.

That, then, is how Diṅnāga formulates the principle that from knowledge of any given class, one can derive knowledge of any wider class that includes it but not of that wider class's subclasses.

1.335. *On pervasion* (*vyāpti*)

The concept of promiscuity is related to the concept of restriction in that restriction is the contradictory of promiscuity. Diṅnāga introduces another concept that is related to the concept of restriction, namely that of pervasion. A property *x* pervades a property *y* if *x* occurs in every locus of *y*. To see how pervasion relates to restriction, consider the following universe comprising four loci (*a, b, c, d*) and four properties (*w, x, y, z*) in which the properties are distributed in the loci as shown in the following chart.

w	*w*	*w*	*w*
x	*x*	*x*	*x*
y		*y*	
z	*z*		
a	*b*	*c*	*d*

In this universe we can observe the following cases of pervasion:

(1) *w* pervades *x*	(4) *x* pervades *w*
(2) *w* pervades *y*	(5) *x* pervades *y*
(3) *w* pervades *z*	(6) *x* pervades *z*

And the following cases of promiscuity:

(1) *w* is promiscuous with respect to *y*
(2) *w* is promiscuous with respect to *z*
(3) *x* is promiscuous with respect to *y*
(4) *x* is promiscuous with respect to *z*
(5) *y* is promiscuous with respect to *z*
(6) *z* is promiscuous with respect to *y*

It will be noticed that pervasion is a nonsymmetrical relation in the above universe; *w* and *x* are in a relation of reciprocal pervasion, but *x* and *y* are in a relation of nonreciprocal pervasion in that *x* pervades *y* but *y* does not pervade *x*. Similarly, promiscuity can be either reciprocal or nonreciprocal; in the above universe *y* and *z* are mutually promiscuous in that *y* is promiscuous with respect to *z* and *z* is promiscuous with respect to *y*, but *w* and *y* are nonreciprocally promiscuous in that *x* is promiscuous with respect to *y* but *y* is restricted to *x*.

From the above it can be seen that given any two properties (P_1, P_2), there cannot be between them both a relation of reciprocal pervasion and of reciprocal promiscuity. But it may be that there is neither a relation of reciprocal pervasion nor of reciprocal promiscuity. In case there is neither reciprocal pervasion nor reciprocal promiscuity, there must be a relation of nonreciprocal pervasion.[37] In other words, between any two properties there must be exactly one of the following three relations: reciprocal promiscuity, reciprocal pervasion or nonreciprocal pervasion.

Let us now return our attention to the problem of inference, the process wherein observation of one property in a locus leads to knowledge of a second property in that locus. It was pointed out above that Diṅnāga laid down the principle that observation of one property, the evidence, can lead to knowledge of a second property, the judged or argued property, only if the evidence is restricted to loci of the judged property. And we have seen in the discussion immediately above that one property is restricted to a second property if and only if it is pervaded by that second property. That which is

pervaded is necessarily restricted to the pervader, but the pervader is not necessarily restricted to that which is pervaded. Similarly proper evidence can lead to knowledge of the judged property, but no certainty results if the rôles of the properties be reversed, that is if we try to use what was formerly the judged property as evidence for the property that was formerly the evidence; the relation of evidence and judged property (or indicator and thing indicated, as these properties may also be called in Diṅnāga's system) is a nonsymmetrical relation.

1.3351. *On preclusion of the complement* (*anyāpoha*). Diṅnāga seems to have been troubled by the process of both reciprocal and non-reciprocal pervasion within his system of logic. Apparently, he felt it would be more convenient to find some conceptual apparatus that would eliminate the necessity of knowing for any given case of pervasion whether it is reciprocal (in which the pervading property and pervaded property are reciprocally inferable) or nonreciprocal (in which case only the pervading property can be inferred from the pervaded property but not vice versa). This more convenient apparatus was found by describing a feature that reciprocal and nonreciprocal pervasion have in common. That common feature is this: in all cases of pervasion, absence of the pervading property is restricted to absence of the pervaded property.[38] Now any property can serve as a basis for dividing the universe into two sets of loci: the set in which that property is present, and its complementary set, i.e. the set of loci in which the property is not present. Thus another way to state the above common characteristic is: presence of a pervaded property in a locus precludes that locus's being a member of the set of loci in which the pervading property is not present. The set of loci in which any given property is absent is called in Diṅnāga's terminology that given property's *anya* (literally, "other"), and the notion of preclusion is conveyed by the abstract noun *apoha*, which is a nominalized form of a verb meaning "to deny, exclude" etc.; hence the compound formed by these two elements, "*anyāpoha*," refers to the above stated principle of precluding the complement. This principle, according to Diṅnāga, describes the essence of the inferential process, for it is that which is shared by private judgment and by communication of one's ideas to others, whether that communication be in the form of a formal debate or informal conversation. In the context of private judgment, "preclusion of the complement" refers to preclusion of the membership of the locus of evidence in the set that

complements the set of loci in which the judged property is present. In the context of verbal communication, it refers to preclusion of a symbol's being used to stand for a member of the set that complements the set of things for which that symbol is allowed to stand according to whatever convention is governing the symbol's use.

1.4. A BRIEF NOTE ON DHARMAKĪRTI'S INTERPRETATION OF DIṄNĀGA

Diṅnāga's presentation of his ideas on epistemology and logic is notoriously laconic. Even the *Pramāṇasamuccaya*, in which his thoughts are given their greatest amplification, tends to be much richer in suggestion than in precise formulation of his ideas. It was left to later interpreters to work out the details of what was suggested by Diṅnāga, and it is perhaps unfortunate that the first significant attempt to give a thorough interpretation of Diṅnāga's system was so thorough that it seems to have discouraged all further attempts. I refer to the works of Dharmakīrti, which, aside from a few casual references to passages of the *Pramāṇasamuccaya* in post-Dharmakīrtian works, seem to have supplanted Diṅnāga's work as the startingpoint for later logical investigations within the Buddhist tradition. Even the sole surviving commentary to the *Pramāṇasamuccaya* was written by a man heavily influenced by Dharmakīrti, and although the commentary is generally excellent, it is clear that in certain passages the commentator has gratuitously introduced Dharmakīrti's concepts to explain passages that might have been explained as well if not better through other concepts. In twentieth century scholarship, too, owing to the fact that Diṅnāga's works have not been studied carefully except by a few scholars, the general rule among modern scholars has been to assume that Diṅnāga's ideas were essentially identical to Dharmakīrti's. As both Diṅnāga and Dharmakīrti become better known to students of their period of Indian philosophy, however, more attention will undoubtedly be given to studying the question of just how the two thinkers differed and to assessing whether those differences between the two thinkers are trivial or substantial. This is not the place to discuss that question in any detail, but it may be interesting to mention just one respect in which Dharmakīrti's philosophical priorities seem different from those of Diṅnāga, and that is in the extent of his commitments to certain ontological doctrines.

The extent to which Dharmakīrti's metaphysical commitments differ from Diṅnāga's can be illustrated by considering the respective views of the two philosophers on the nature of the particular *svalakṣana*. Judging from how little attention Diṅnāga pays to discussing the nature of the particular, save to say that it is a thing that is cognized as it is, it would seem that his view of its nature does not deviate significantly from what might be called a commonsense view; a particular for him is essentially just a thing that is numerically different from other things. A particular is said by Diṅnāga to be inexpressible, and what he seems to mean by this is quite simply that one cannot by just naming or even describing a particular thing impart to another person a precise and unambiguous understanding of just exactly that one thing, for by applying a suitable name or description to a thing one is inevitably saying something that is suitable not only to that one thing but to countless other particulars as well. Therefore, the audience of a verbal communication will not form exactly the same mental image as that of the author of that communication.

Now this view of words and of things, namely that one word applies suitably to many particular things and therefore a particular thing is not the sole referent of a word, is not in any way extraordinary, and Diṅnāga makes few if any philosophical commitments beyond that very ordinary view. We find in Dharmakīrti, on the other hand, a different state of affairs; in his system the particular comes to be characterized according to the doctrines of the Sautrāntika school of Buddhism, which doctrines deviate considerably from a commonsense view of the world. Thus for Dharmakīrti the particular is something that exist for exactly one moment; each particular is absolutely different from every other; and consequently all notions of similarity are fundamentally erroneous insofar as they violate the absolute uniqueness of the particulars that constitute reality.[39] Having committed himself to these peculiar doctrines of the Sautrāntika school, Dharmakīrti must deal with a number of philosophical problems that no longer have much bearing on just the logical and epistemological principles that were Diṅnāga's primary concern.[40] In doing all this, it is quite possible that Dharmakīrti set in motion within the Buddhist school of logic a philosophical trend that was not altogether consistent with Diṅnāga's philosophical positions. But let that be a matter for further research.

2.0. Following is an English translation of the first 25 kārikās, and Diṅnāga's

own commentary on them, of the *Svārthānumānapariccheda*, the second chapter of the *Pramāṇasamuccaya*. This text is no longer extant in the original Sanskrit but has been preserved in two Tibetan translations. Also preserved in Tibetan is a commentary entitled *Viśālāmalavatī Ṭīkā* written by one Jinendrabuddhi. Both translations of the *Pramāṇasamuccaya* as well as Jinendrabuddhi's *Ṭīkā* are preserved in the Peking edition of the Tibetan Tripiṭaka, in the division of the bstan 'gyur devoted to logic (Skt: *hetuvidyā*, Tib: *gtan tshigs rig pa*).

Concerning the two translations of Diṅnāga's work, the earlier was done probably in the late eleventh or early twelfth century by Vasudhararakṣita and Seng-rgyal.[41] It is preserved as text #5701 of the Peking edition of the Tibetan Tripiṭaka, Vol. 130, edited by Daisetz T. Suzuki, Tōkyō-Kyōto, 1957. The later translation was done by Kanakavarman and Dad-pa'i shes-rab, probably after the last quarter of the fifteenth century. It is preserved as text #5702 of the Peking edition of the Tibetan Tripiṭaka, Vol. 130. And Jinendrabuddhi's *Ṭīkā*, translated by Dpal-ldan Blo-gros brtan-pa, appears as text #5766 of the Tibetan Tripiṭaka, Peking edition, Vol. 139.

2.01. Since I had available to me only the Peking edition of the Tibetan Tripiṭaka, I relied on the edition of the Tibetan texts of Kanakavarman and Vasudhararakṣita that appears in Kitagawa (1965) pp. 447–469 for information on variant readings in other editions of the Tibetan Tripiṭaka. My translation generally follows the translation by Kanakavarman, which usually seems to be the more reliable of the two Tibetan translations.[42] In a number of places, however, in which the translation of Vasudhararakṣita seemed more accurate, I have followed it and have indicated these passages in the text of my translation.

2.02. SYMBOLS AND CONVENTIONS USED IN THE TRANSLATION

Owing to the fact that in both Sanskrit and Tibetan sentences anything that is felt to be obvious from context is usually left unexpressed, a perfectly literal translation into English of a Tibetan sentence would usually produce a virtually meaningless string of words (even if the words were placed in normal English word-order). Therefore a translator must supply a great deal in order to produce well-formed English sentences in the first place, and it is often necessary to supply even more to show explicitly the logical relations

among several sentences. Now there is always a risk that a translator, in supplying extra words and phrases to bring out the meaning of a passage, will supply the wrong words. It seems only fair, therefore, to give the reader some indication of where words have been supplied. Thus I have indicated supplied material by enclosing it in parentheses – with apologies to anyone who finds reading a text with an abundance of material in parentheses as annoying as I do. As for the sources of what is supplied in these parentheses, much of it comes from the context of Diṅnāga's text itself, i.e. from surrounding sentences, and the remainder comes from Jinendrabuddhi's *Ṭīkā*, without the help of which much of the *Pramāṇasamuccaya* would be nearly impossible to understand accurately.

In the original text the Kārikā verses are interwoven into the prose commentary in such a way that the verses, when isolated, are so laconic as to be nearly unintelligible. All material presented in verse form in the original text is indicated in the translation by *italics*. The numbering of the verses, which are unnumbered in the Tibetan texts, follows the numbering in Kitagawa's edition.

The Tibetan texts are not divided into paragraphs. All paragraph divisions and numbering thereof are introduced by the English translator.

References in footnotes and the margins to passages in the Tibetan texts are to the folio numbering of the Peking edition. The obverse and verso of each folio are indicated respectively by "a" and "b" written just to the right of the folio number. The line number of that folio-side is indicated by a superscript. The letters "K", "V" and "J" to the left of the folio number indicate whether the text being referred to is Kanakavarman's, Vasudhararakṣita's or Jinendrabuddhi's. Thus "J107b^{3}" means the third line of the verso of folio 107 in Jinendrabuddhi's commentary.

Footnotes containing comments pertaining exclusively to a feature of the Sanskrit or Tibetan language are indicated by "S" or "T" to the right of the footnote number in the text. Anyone not interested in these languages will save himself vexation by not bothering to look up footnotes so indicated. The Romanization of Tibetan words follows the system of Wylie (1959).

Passages of the translation where I have found the reading in Vasudhararakṣita's translation preferable to that in Kanakavarman are indicated by the symbols "V→" and "←V", placed respectively over the first and last words of the phrase that is based on Vasudhararakṣita. In case neither Kanakavarman nor Vasudhararakṣita was intelligible to me, I have provided a paraphrase of

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the passage based on information in Jinendrabuddhi's *Ṭīkā*; such passages are marked by "J→" and "←J". This convention of marking which Tibetan translation is being followed, which was used by Kitagawa in his translations into Japanese, is for the convenience of those who want to use the Tibetan texts as aids in understanding the English, or vice versa.

2.03. Finding suitable English expressions for technical terms in an ancient non-European philosophical tradition is not always simple and is a matter on which no two translators seem ever fully to agree. The expressions I have chosen for some terms may seem odd to people who prefer other English expressions for those same terms. Thus for those who might wish to know the Tibetan and Sanskrit basis of some of the key expressions in this text, I have included a small glossary as an appendix to the translation. Words and phrases appearing in this glossary are marked in the text of the translation by an asterisk placed directly behind the word at its first occurrence.

INFERENCE FOR ONESELF

2.1. [Inference and how it differs from perception]

K(ārik)ā 1ab K109a[1] V27b[6] (1) *The inferential process is of two kinds: that which is for one's own sake, and that which is for the sake of other people.* Of those, inference *for oneself consists in discerning an object through an indicator**[43] *that has three characteristics.* Inference for oneself is discerning an inferable object through an indicator that has the three characteristics explained below [Section 2.2].

kā 1c[1] (2) *As was the case above,*[44] *this too refers (not only to the cognitive process but also) to the resulting cognition.* The resulting cognition is explained in this case in the same way as it was explained in the case of perception, i.e. with reference to a cognition's having two aspects.

(3) Q(uestion): Now if both (perception and inference) are characterized as cognitions, what is the difference between them?

kā 1c[2]d A(nswer): *Their fields of operation**[45] *and essential natures are dissimilar.* Perception and inference have distinct fields of operation, and their essential natures are also distinct in accordance with their having different cognitive images*.[46]

(4) Q: Now why is it that only inference is subdivided into two parts?

kā 2ab K109a5 V28a2 A: *Because the particular** (which is within the field of operation of perception) *is inexpressible.*[47] (But inference), *since the object grasped by it differs, is otherwise*. Perception and inference have different fields of operation. If the object of perception were expressible, one could infer it just through speech.

(5) Q: Now suppose it is argued that sometimes we observe cases of inferring perceptible objects, as for example (when we infer) a tangible property through a visible one. A: Yes, there are such experiences, but it is not (really a case of inference and perception's having the same field of operation). The inference of that (tangible property) is not the same as the perception of it, but rather it is otherwise; it is otherwise in that we infer a universal of the tangible property after recalling a former experience. Thus we infer the tangible property through the universal of the visible property rather than through the form of the perception of the visible property itself. Since the particular tangible property that was previously perceived cannot be designated by name, there is no confusion of the fields of operation of the two means of acquiring knowledge.

(6) Q: But if perceptible things are inexpressible, why are expressions such as "seen" etc. used with reference to things that are seen etc.?

kā 2cd K109b2 V28a7 A: There is no inconsistency here, for in that case *it is described through the fact of its being seen, but it is not named through its essential property*. They are referred to by some token such as "is seen" "is heard" "is desired" "is known" etc. but not through their essential properties.

(7) Q: But is it not the case that after we apprehend a blue colour through mind-consciousness*, the very object that we experienced through visual-consciousness is then expressed (with the words) "It is blue"?[48]

kā 3ab K109b4 V28a7 A: Here too, *since it is cognized through a name, it is the* (*universal*) *cognitive image, which is different* (*from the cognitive image of the particular*) *that is expressible. The mind has* (*the capacity of grasping*) *two cognitive images*. (The immediately

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preceding statement) says that since mind-consciousness, by rejecting what is not blue, is able to receive the object experienced by visual-consciousness, the mind has two cognitive images (i.e. the image of the universal and that of the particular).[49]

(8) Given that the particular is inexpressible, since the essential nature of a knowable object is in the field of operation of perception, whereas inference has universals as its field and is expressible through verbal expressions, inference alone is divided into two parts.

(9) Q: But, it may be objected, we should not say that all
kā 3c K109b7 V28b3 inference has universals as its field of operation, because *it is observed even when there is no universal*. Although (the element) Wind does not have the character of a universal, it is nevertheless seen to be inferred by means of its touch, as it is said concerning touch (in *Vaiśeṣikasūtra* II.1.10) "things that are seen have no touch" etc.[50] S

kā 3d K109b8 V28b4 A: *No, that is not the case, for it is a universal that is (indirectly) indicated*. It is not a case of inferring (a particular substance, namely the element) Wind, because since touch etc. are qualities, the general property of having a substratum is indicated (in-directly through the quality-universal). Or, to explain it another way, it is not the specific nature of Wind etc. that is inferred, but it is just the fact of being supported by some substance, which fact is common to touch (and the other qualities), that is indicated.[51]

(10) Q: Suppose it is argued that it (= the particular substance, Wind) is proved by a process of elimination*, i.e. it is established that this inference regarding the nature of things such as Wind is through a process of elimination, as follows: "Touch is absent in visible things, but (it is) not (absent) in invisible things."

A: That is not the case, because it (= the substance Wind) is not proven to exist, and because (even if it were proven to exist, then) touch could be denied (to belong to it) in the same way (as it was denied to belong to the other elements).

(11) Q: It being established that Wind exists, there is no denying it. A specific substance is inferred on the basis of a specific quality without (recourse to) a general quality, because of that substance's

connection with that specific quality; that being the case, (the existence of) Wind is established.
A: (True), but the existence of touch (in Wind) is not established; it can be denied (in Wind) in the same way it was denied in the substance Earth and the other substances. Because it is not a specific quality.[52]

K110a[5] V29a[1] (12) Q: Suppose one argues that touch is denied v→in visible substances←v just on the ground that it is invisible itself.
A: v→That also is incorrect. Touch cannot be denied as a quality of things that are visible, corporeal and resistant*;[53] in fact, the mind infers touch as a quality of those things because touch is observed when (those) other (properties) are observed, and it is not observed when they are not observed. Therefore touch does belong to visible things.←v

(13) Thus, since there are more possibilities than one, confusion arises as to what touch does belong to, so one cannot infer Wind by denying all other possibilities.

(14) Besides, (that Wind is the substance in which the quality
kā 4ab K110a[7] V29a[4] touch occurs is not really even an inference) *because it is (established) by denying (substances) other than itself on the authority of the statements of credible persons**.[54] In this case, Wind is established (as the substratum of touch) after one first infers substance in general (on the grounds that touch, being a quality, must inhere in one of the nine substances) and then eliminates the other (eight) substances (as its substratum) by the authority of the statements of credible persons. The same (process) applies to other cases as well. Therefore it is on the basis of traditional doctrines* that wind is established (as the locus of the quality touch).

kā 4c (15) Q: *Then the (above) point is proved, because there is no difference*; since there is no difference between traditional doctrines and inference, it is established here that inference has the particular as its sphere of operation!

kā 4d K110b[2] V29a[6] A: *That is not the case, because in fact they are different*. That verbal testimony is different from inference is established on the authority of common usage*.[55]

(16) Some say the distinction lies in the fact that (in verbal testimony) no example is stated. If this were the case, it would follow that whenever one or both examples were not explicitly stated because they are already well known, as for example in the inference of fire from smoke, that would be (a case of) verbal testimony* (rather than inference).

(17) But others state the difference as follows: in the case of verbal testimony, the word indicates (its object) owing to a (fundamental) identity between the word and the object, so in fact it does not reveal (the object) through a process of inference. But if this is the case, that a word signifies (its object) through (the object's) identity with the word, some account must be given of how we conclude (which aspect of) the object (is identical with and thus indicated by the word, for an object has many aspects). The object named by the word "tree" is nothing other (than the tree). Although the word "substance" makes the same object (i.e. the tree) known, it really does so in another way, by distinguishing it from what has no substance.

(18) Q: But the word 'tree" also makes the distinction from non-substance known.

A: True, it does make that known, but it does so by implication, not explicitly, so that objection is invalid.

(19) Now there may be nothing wrong in saying that verbal testimony is a means of correct cognition in the case of words (classed as nouns etc.)* such as "tree" etc., but words such as those that name actions* also make us know something, but not through some characteristic (of whatever it is that such words indicate).

(20) Some assert that the only speech is the (whole) sentence*,
and individual words* are a means of understanding* that
(sentence);[56] they do not recognize an object conforming to
K111a¹ speech. Thus, admitting a slight difference between inference and
verbal testimony, they say that they are different.

(21) (So far) in the above explanations of inference, attention has
been focused on indicators not connected with speech. But verbal
V29b⁵ communication also (is like inference in that it) does not apply to
a unique thing (but only to generalities). Therefore, one should

regard inference as being of two types according as (its object is) visible or invisible. In the case of a visible object, we may teach its name.[57] With reference to an invisible object there is only a concept* but there is no cognition of a particular object.

(22) Q: How can verbal testimony be classed as inference? (Inference is a means of correct cognition, but in the testimony of the ancient Seers we find) words such as "Heaven" (which) do not express any (real) object at all.

kā 5ab K111a[3] V29b[7] A: *The statements of credible persons are* (to be subsumed under) *inference insofar as they have* (*in*) *common* (*with inference the*) *character of not being false.*[58] [S] Because when one hears the statement of credible people, the (resultant) cognition is not false, and because this makes them similar (to inference) we say (such statements are to be classed as) inference. Furthermore, it is claimed that the name-giving* was previously seen first-hand (by the ancient Seers). This view denies inference with respect to such things as (the Sāṁkhya) thesis of Primordial Substance*[59] [T] (because it has never been seen before).[60]

(23) Therefore inference does not have particulars as its range of operation.

2.2. [The three criteria of conclusive evidence]

(1) The phrase (from Kārikā 1) "through an indicator that has three characteristics" must now be explained. (A proper indicator must be) *present in the object of inference* and in what is similar to it, and absent in their absence.*[61] The object of inference is a property-locus* qualified by a property; by discerning, either through perception or through inference, the indicator in a locus of the argued property, one later establishes its existence as a general property either in some or all loci of the same class.

kā 5cd K111a[6] V30a[1]

(2) Q: Why is it (that we say "some or all loci of the same class"; why do we not say "all" such loci)?

A: Since the requirement* is that the indicator occur in no loci but those that are similar (to the object of inference); there is no requirement that it occur (in all loci similar to the object of inference).[62]

(3) Q: But then nothing (further) is accomplished by saying "the indicator is absent in the absence (of what is similar to the object of inference)."

A: This statement is made in order to emphasize that the indicator, being absent when what is similar to the object of inference is absent, is not present in what is other than or incompatible with the object of inference.[63]

(4) Here then is the indicator with three characteristics from which we discern the indicated property*.

(5) Q: In that case, should one not also mention the knowledge (of the indicator as a factor in inference)?[64] T

A: That is not necessary to mention, because *it is taken for*
kā 6a *granted here that there is also knowledge* (of the indicator).
K111b[1] Q: How can what is not explicitly mentioned be taken for
V30a[5] granted?

kā 6b A: *Because* (*the indicator*) *is the principal one of the factors that produced knowledge* (*of the indicator*). V→ The indicator is the foremost of the factors that make the indicator known ←V, and although cognition of the indicator is itself dependent on an agent of cognition, still it is not dependent on many things such as an instrumental cause etc., therefore it is established (automatically).[65]

(6) Since we have said that a proper indicator has three charac-
kā 6cd teristics, *it is of course the case that an indicator having only one*
K111b[3] *or two* (*of those characteristics*) *does not serve the purpose.*
V30a[7] (7) Of these, indicators having only one characteristics are as follows:

(1) those which are present only in the object of inference but are absent in what is similar and not absent in what is not similar,
(2) those which are present in what is similar to the object of inference but absent in the object of inference itself and also not absent in what is not similar to it, and
(3) those which are absent in what is dissimilar to the object of inference but absent in the

object of inference and also absent in what is similar to it.

Indicators having only two of the characteristics are:

(4) those that are present in the object of inference and present in what is similar to it but not absent in what is dissimilar,

(5) those which are present in the object of inference and absent in what is dissimilar from it but are absent in what is similar, and

(6) those which are present in what is similar to the object of inference and absent in what is dissimilar but are absent in the object of inference itself.

(8) The above six types of apparent evidence* can be understood by implication to be ruled out (as proper evidence). Examples (of each of the above six forms of improper evidence are respectively):

kā 7 K111b[7] V30b[3]

Sound is permanent (1) *because it is produced*
(2) *because it is corporeal*
(3) *because it is unknowable*
Sound is impermanent (4) *because it is incorporeal*
(5) *because it is audible*
(6) *because it is visible.*[66]

2.3. [Property-locus as object of inference]

kā 8ab K111b[8] V30b[3] (1) Now on this matter,[67] S *some people claim that it is another property that is cognized through the invariable association* (of the evidence with that other property). They claim that since from smoke we cognize fire that accompanies it rather than cognizing a place possessed of fire, it follows that we infer the fire itself from the smoke.

kā 8cd (2) *Others assert that since the* (*inferred*) *property and that property's locus are both already known*, (the new knowledge arising in) *an inference is that of the relation* (between the inferred property and its locus). These people claim that since (the inferred property) fire and its locus are well-known to

people, the thing that is inferred from smoke is the relation between fire and its locus.

kā 9ab K112a3 V30b6 (3) Let us first answer the former view. *If the indicator is known to occur at the* (*other*) *property, what else is inferred through it*? If the indicator, smoke, is already known to be at the other property, fire, then what is the purpose of recalling the relation between smoke and fire; and what is inferred through smoke?

kā 9cd (Furthermore) *if* (*the indicator is known to occur*) *at the* (*inferred*) *property's locus, why isn't that* (*locus*) *the thing that is inferred*? If fire is inferred through the perception of smoke in a locus that is connected with fire, then why not say that the locus itself is inferred to be possessed of fire? For it is not the case that fire is not cognized there.

(4) And to those who say that it is the relation that is the object

kā 10a K112a5 V31a1 of inference (we reply): (1) *The two do not occur in the relation.* Fire and smoke do not occur in the relation, so (if the relation is regarded as the object of inference) this would amount to saying there is fire wherever there is no occurrence of smoke.[68] (2)

kā 10b Furthermore, *we would hear the genitive case applied to the possessor*. If the relation were the object of the inference, we would see the genitive case applied to (the word for) fire, which has the relation, e.g. "The relation *of* fire." (But in fact) we

kā 10c1 employ the nominative case: "Fire is here." (3) A relation *is not expressible* through its intrinsic properties; a relation is expressible only in terms of something else (namely its relata).[69] T That being

kā 10c2 the case, it is not an object of inference, but rather, *it is known by implication*. When we say "There is fire here" the relation (of fire to the locus) is expressed only implicitly. For the reasons stated above it is not the object of inference through smoke. (4) *This*

kā 10d (*relation*) *has no relation with the evidence*, since it is not the case that an invariable relation (of the relation) with smoke is shown elsewhere; rather, (the invariable relation is shown to be of smoke) with fire.

(5) Q: The above criticisms are invalid, because you regard the locus-endowed-with-fire to be the object of inference despite the fact that smoke is not shown to be invariably related to

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that locus. Well, the same may be true of the relation as well.
kā 11 A: This is not a parallel instance*, because *it is the invariable*
K112b[2] *relation of the indicator with the (inferred) property that is*
V31a[6] *pointed out elsewhere. When it is established there, it will make the property-locus known to be endowed with that property.* When one sees the invariable relation of smoke with fire in one place, then by observing only smoke in a second place, it is possible to establish this second locus to be possessed of fire on the grounds that wherever there is smoke, there is fire. Otherwise, we cannot account for it; (we cannot say, for example) that a specific instance of smoke and a specific yet unproved locus are invariably related elsewhere; but we can point out the invariable relation with a universal, for what is indicated is that wherever there is smoke there is fire.

(6) Therefore it is correct to say that although the indicator is shown to be necessarily related to the inferred property, neither the (inferred) property itself nor the relation is the object of inference.

2.4. [On restricted and promiscuous properties]

kā 12 (1) *Now we must consider the other property, and also we must*
K112b[6] *explain the indicator.*
V31b[2] (2) Concerning the property-locus that displays an indicator that is restricted* to a property and is thereby proved to be in possession of that property: *an object has many properties, but*
kā 13 *we do not cognize them all through the indicator*; *the indicator*
K112b[7] *makes known those (properties) with which the inferred object*
V31b[3] *is necessarily related** *(and it makes this known) by a process of eliminating others*. We cannot cognize by means of the smoke what kind of specific features the fire has, e.g. what kind of flames it has or its temperature, because the indicator may occur where those (specific features) do not*.

But one does cognize those things that are necessarily related, things without which no fire exists, such as the fact of being a substance* and the fact of possessing qualities*; these properties are cognized as incompatible with non-substance etc. For

example, the cognition of fire is in accordance with things that being related to it can only rule out what is not fire; one does not observe them all in fire's absence, but one does observe (some of them) in things other (than fire).

kā 14 K113a^{2} V31b^{6} (3) *Possession of qualities, aroma,* V→ *sweet fragrance as a whole and a particular sweet* ←V *fragrance – taken in this order, each* (*of the above four properties*) *increases the notion of a lotus by ruling out things such as non-substance etc.* V→ Possession of qualities rules out non-substances, and possession of aroma rules out non-Earthen substances, and possession of a sweet fragrance generally rules out things that ←V stink, and a particular sweet fragrance rules out what is not a lotus; each of these eliminations makes (the lotus more clearly) known.

kā 15 K113a^{4} V31b^{7} (4) Otherwise, *if the indicator made the object known by a means of proof similar to direct perception, then either the object would not be known at all, or it would be known in its entirety*. If an indicator revealed (an object) at a later time in the same manner as the (earlier) perception (i.e. when we perceived the relation) of smoke in fire, then it would not reveal it anywhere; the indicator is as unperceived in *every* fire as it is unperceived when there is no fire at all.[70] And if the indicator revealed the object in the same way as perception does, then it would also reveal it as possessed of a specific flame and specific temperature and so on. Since (the indicator, smoke) makes (the inferred property, fire) known generally, by ruling out non-fire, we know that by means of the established property (i.e. the indicator) we cognize only this (general) form, but not the particular form.

kā 16 K113a^{8} V32a^{3} (5) *But there is really no universal*. Because we do not observe it throughout its substratum*, nor do we see it outside its substratum. But if it is observed in each of its substrata, it is divided*. First of all, there exists no universal "Firehood" in addition to the fire. Even if it exists, it is impossible to observe it, because one cannot observe its entire substratum. J→ We observe that no property that is common to many substrata, e.g. duality, can be cognized in its every substratum (e.g. in every pair). Some say (the notion of) a universal is due to resemblance, but there is

also no (such thing as) resemblance (existing as an entity separate from the particular things said to resemble one another).[71] T ←J
Some say that if a universal is known in a single substratum it is known in all, but in this case it would be plural like the substrata themselves.[72]

(6) And similarly, only part (of the properties of the indicator) reveal the thing to be inferred from it. *Thus, although the*
kā 17 K113b[3] V32a[6] *indicator has several properties, it is really only part of them, namely those that do not occur away from the thing indicated, that make* (*the indicated thing*) *known*; *the others do not*. In the case of smoke, it makes fire known only through part of its properties, namely those such as the fact of being smoke or the fact of having a smokey colour that do not occur except with fire; but (smoke does) not (make fire known through smoke's) being a substance, because this property can occur elsewhere (than with fire).

(7) The following verses give the essence of the above topic:[73]
kā 18–19 K113b[4] V32a[7] *The indicator makes known also that which is necessarily related to the thing indicated. It does not make the latter's particular properties known, because the indicator can occur where those* (*particular properties*) *do not. An object necessarily related with the indicator does not make the indicated thing known, because it may occur where the latter does not. After we cognize* (*features*) *specific* (*to the indicator*) *it makes* (*the indicated thing*) *known.*

2.5. [Nonsymmetry of restriction and pervasion]

(1) Now one might get this idea: since the relation between an indicator and the thing indicated by it resides in both relata, just as physical contact* (resides in the two things contacting one another), it follows that the property that is indicated is interchangeable with the property that indicates it. But that is not
kā 20 K113b[7] V32b[2] the case. *Although the relation of the co-existing indicator and what is indicated by it is located in both of them, it occurs in the manner of* (*the relation that occurs in*) *a content* to its container* rather than in the manner of* (*the relation of physical contact that occurs in*) *things in contact.*[74] S

Although the relation (between a container and a content) is one that occurs in both (relata), the container does not assume the rôle of the content, nor does the content assume the rôle of container. In just the same way, the indicator does not in any case assume the rôle of thing indicated, nor does the thing indicated ever assume the rôle of the indicator. In the case of physical contact, on the other hand, the second relatum is just like the first. But such is not the case with this (relation between indicator and thing indicated).

kā 21
K114a[1]
V32b[5]

(2) Thus, *the thing indicated necessarily exists where the in-indicator exists, and the indicator exists only where the thing indicated occurs. When this restriction* is reversed, there is no relation of indicator and thing indicated*. Since the thing indicated necessarily exists at the indicator, it is possible by means of smoke to cognize (the fire's) being a substance as well as its being a fire, but not (to cognize the fire's) temperature. Since the indicator exists only at the thing indicated but not elsewhere, such attributes of the smoke as its being smoke or its being smoke-coloured can make (fire) known, but (smoke's) being a substance cannot. Thus when this restriction is reversed, there is no necessary relation of indicator and thing indicated.

(3) Q: But what if the indicator does in fact occur wherever the thing indicated occurs, as for example the fact of being produced which occurs wherever impermanence occurs?

kā 22
K114a[5]
V32b[8]

A: *Now if one claims that an indicator, e.g. the fact of being horned, pervades that which is indicated by it (i.e. a given horned entity), then some of it (may occur) away from the thing that is indicated. Since the indicator pervades the thing indicated, it cannot make the latter known*. If only some of the indicator occurs at the thing indicated, then by virtue of the fact that it pervades the latter, it does not make the indicated thing known. For example, although the fact of being horned pervades cows, it is not capable of making cows known. But the fact of being a cow, since it does not pervade (the fact of being horned) does make this latter fact known.

kā 23
K114a[7]
V33a[2]

(4) Why? *Because non-occurrence (of the pervader) in the complement* (of the thing pervaded) depends on (the extension of)*

the pervader. Therefore, although an indicator does indeed pervade that which is indicated by it, it is not (*on account of this pervasion*) *a basis* (*of the indicated thing's becoming known*).

(Returning now to the above question): The fact of being produced pervades impermanent objects, but it cannot make them known except by excluding permanence. Similarly, the fact of being impermanent pervades objects that are produced, but it cannot make them known except by excluding the fact of being unproduced. Therefore, since the fact of being produced pervades impermanent objects, the fact of being unproduced cannot occur in them. Therefore, impermanence can make the fact of being produced known by excluding the possibility of being unproduced, but it cannot make it known (through pervasion).

(5) These verses summarize the above points: *Since that which*
kā 24–25 K114b[2] V33a[5] *is perishable is pervaded by the condition of being produced, what is perishable is not unproduced. It is not claimed that on the basis of this pervasion perishability is absent in produced objects. That the condition of being horned pervades cows excludes the condition of being unhorned* (*from cows*). *That cows are pervaded by the condition of being horned does not exclude non-cows* (*from the condition of being horned*).[75]
This concludes the explanation of inference for oneself.

APPENDIX

In the following glossary of terms, the number in the left column indicates the section of the translation in which the term first appears marked by an asterisk.

Section	English	Tibetan	Probable[76] Sanskrit original
2.1(1)	indicator	rtags	liṅga
2.1(3)	field of operation	yul	viṣaya
	cognitive image	rnam pa	ākāra
2.1(4)	particular	rang gi mtshan nyid	svalakṣaṇa

2.1(7)	mind consciousness	yid kyi rnam par shes pa	manovijñāna
	visual-consciousness	mig gi rnam par shes pa	cakṣurvijñāna
2.1(10)	process of elimination	yongs su lhag pas grub pa	pariśeṣeṇa siddham
2.1(12)	resistant	thogs pa dang bcas pa	sapratigha
2.1(14)	statements of credible persons	yid ches pa'i ming	āptavacana
	traditional doctrines	lung	āgama
2.1(15)	common usage	grags pa	rūḍhi
	verbal testimony	sgra las byung ba	śābda
2.1(19)	words classed as nouns	su pa'i mtha'i tshig	subantāni padāni (J102a[5])
	words that name actions	ti nga'i mtha'i tshig	tiṅantāni padāni (J102a[7])
2.1(20)	sentence	ngag	vākya
	individual word	tshig	pada
	means of understanding	rtogs pa'i thabs	buddhyupāya
2.1(21)	concept	rnam par rtog pa	vikalpa
2.1(22)	name-giving	ming gi las	nāmakarman (?)
	Primordial Substance	gtso bo	pradhāna, prakṛti
2.2(1)	object of inference	rjes su dpag par bya ba	anumeya
	property-locus	chos can	dharmin
2.2(2)	requirement	nges par gzung ba	avadhāraṇa
2.2(4)	indicated property	rtags can	liṅgavat, liṅgin
2.2(8)	evidence	gtan tshigs	hetu
	apparent evidence	gtan tshigs ltar snang ba	hetvābhāsa
2.3(5)	not a parallel instance	mi mthun pa nye bar bkod pa	viṣamopanyāsa

2.4(2)	restricted	mi 'khrul ba	avyabhicārin
	necessarily related	rjes 'brel	anubaddha
	may occur where those do not	'khrul ba	vyabhicāra, vyabhicarati
	the fact of being a substance	rdzas nyid	dravyatva
	the fact of possessing qualities	yon tan nyid	guṇatva
2.4(5)	universal	spyi	sāmānya
	substratum	rten	ādhāra
2.5(1)	physical contact	sbyor	saṁyoga
	container	rten	ādhāra
	content	brten pa	ādheya
2.5(2)	restriction	nges pa	niyama
2.5(4)	complement	dgag par bya ba	pratiṣedhya

NOTES

[1] This section is intended primarily to provide basic background information for those who may be curious about Indian logic but whose field of specialization is not Indian philosophy. Since most of the information contained in it will be quite familiar to specialists, they may wish to skip to later sections of this paper. Since this account is brief and gives only a general outline, I will direct the reader to several other works that give more complete accounts of specific points mentioned here.

[2] The evidence on the basis of which this time has been assigned to Diṅnāga is presented in Frauwallner (1961) and Hattori (1968) pp. 4–6.

[3] For an account of what little reliable information there is on the life of Diṅnāga (whose name may also be spelled Dignāga), see Stcherbatsky (1930) pp. 31–34. A lively and entertaining but less factual biographical sketch also appears in Vidyābhūṣaṇa (1921) pp. 270–276. For a list of Diṅnāga's works see Hattori (1968) pp. 6–11, and for a more complete account of the various stages of Diṅnāga's philosophical career, see Frauwallner (1959).

[4] Frauwallner (1953) and (1956) presents various evidence for many of the basic doctrines of the Sāṁkhya, Yoga and Vaiśeṣika systems stemming from different strains of Epic literature. As for the other main systems of Brahmanic thought, the Mīmāṁsā grew up as a system of interpreting Vedic injunctions, and Vedānta as a systematization of Upaniṣadic speculations. On the sixth orthodox system of Brahmanic thought, the Nyāya, see note 6.

[5] For accounts of the pre-Nyāya codes governing debate see Vidyābhūṣaṇa (1921) pp. 1–37; for an account of the development of different traditions of debate, see

Oberhammer (1963); and for an account of the contents of some of the Buddhist treatises on debate, see Tucci (1929) pp. 455–467.

6 The early Nyāya system, which offers more material on the proper and improper forms of presenting arguments than the other schools, may have developed later than the other schools, although it shares many of its fundamental metaphysical doctrines with the Vaiśeṣika.

7 For example, Frauwallner (1959), pp. 93–4, cites examples of arguments of the form ($p \rightarrow q.\ \bar{p}.\ \therefore \bar{q}.$) in Buddhist manuals from before Diṅnāga's time. Specimins (in Tibetan language) of arguments of this form are to be found in Frauwallner (1957) pp. 139–140.

8 Tucci (1929) and Frauwallner (1959) trace some of Diṅnāga's ideas to the Buddhist philosopher Vasubandhu (who may have been Diṅnāga's teacher) and to a pre-Vasubandhu text on reasoning entitled *Tarkaśāstra* by an unknown Buddhist author. Hattori (1977) records Diṅnāga's debt, especially in his theories on the relation between language and its referent, to the grammarian-philosopher Bhartṛhari, who was probably an older contemporary of Diṅnāga, and to certain key doctrines of the Sautrāntika school of Buddhism.

9 Diṅnāga is traditionally presented as advocating the position of the idealist Yogācāra (Vijñānavāda) school of Buddhism, which denied the ultimate reality of objects external to consciousness. In the *Pramāṇasamuccaya*, in contradistinction to his works in which he advocates an idealist position, Diṅnāga's main purpose is to treat logical and epistemological issues, and he appears to have deliberately presented his views on these issues with a minimum of metaphysical bias; indeed, he shows every indication of having intended this work to be acceptable to both those who denied and those who affirmed the reality of objects external to consciousness. Thus to those who prefer to deny the reality of external objects, Diṅnāga's use of the term "external object" (*bāhyārtha*) can be regarded as no more than a conventional manner of speaking. For a full discussion of this point, see Hattori (1968), notes I.55 and I.60–64, pp. 97–99, 100–106.

10 A more detailed discussion of inferential indicators will be found below in section 1.333.

11 A fuller description of this view as it was propounded by Bhartṛhari and his forerunners can be found in Brough (1951), (1952) and (1953).

12 But Frauwallner (1959) p. 96 and (1958) presents evidence to the effect that this distinction had been for the most part anticipated by Sāṁkhya philosophers in a time near to but before Diṅnāga's.

13 P(ramāṇa)S(amuccaya) I.2.

14 PSV(ṛtti) *ad* I.2.

15 Diṅnāga specifies that where perception ends and judgment begins is in the association of a thing with a name, a genus, a quality, an action or an accidental attribute. On this see Hattori (1968) p. 25 and 82–86, Matilal (1971) pp. 34–36, and Stcherbatsky (1930) p. 217 and p. 451. Incidentally, the line of demarcation between *pratyakṣa* and *anumāna* was one of the many points of controversy between the Nyāya philosophers and Diṅnāga's school. For Diṅnāga the term "*pratyakṣa*", which is used to refer either to the cognitive process or to the cognized object, is very similar to the notion of "sensing" and "sensum" (or "sense-datum") as those terms are explained by Hirst (1967); that is, Diṅnāga's use of the term "*pratyakṣa*" is restricted to that experience which is certain and unquestionable and quite direct (in the sense of involving no interpretation of the sensum or sensa). His position, then, could be stated in very nearly the same terms as Hospers (1953) p. 536 used to describe the sense-datum

philosophy of the early part of this century: "Sensing is different from perceiving. We sense sense-data; we perceive physical objects. Perception is impossible without sensing (without something given to sense), but it involves more. When we open our eyes we have certain visual experiences – sense-data; in this we are passive, and cannot help what we see. But in addition to this passive intake of sense-data there occurs an activity that we may call *interpretation* .... We are classifying our present experience into molds already established by previous experiences." The Nyāya philosophers, on the other hand, included more than just the above described sensation within the referential sphere of the term "*pratyakṣa*"; for them "*pratyakṣa*" also includes that interpretation of sensa that is decisive and correct. Thus, if one wanted to emphasize the difference between Diṅnāga's and the Nyāya use of the term "*pratyakṣa*", it could be done by translating Diṅnāga's use as "sensing/sensa" and the Nyāya philosopher's use as "perception/percept". In the present paper, however, since I am not so concerned with how Diṅnāga's use of "*pratyakṣa*" differs from other philosophers' as with how "*pratyakṣa*" differs from "*anumāna*" within his system, and since I feel the terminology "sensing/sensa" to be rather awkward and potentially misleading. I shall prefer to render even Diṅnāga's "*pratyakṣa*" by the more conventional English expression "perception".

[16] It is partly on these grounds that Diṅnāga criticizes the Nyāya definition of perception as a "cognition arising from a sense-organ's contact with its object, which (cognition) is nonverbal, *non-erroneous*, and by nature decisive." In Diṅnāga's view it is nonsense to speak of a sensation (see n. 15 above) itself as being either erroneous or non-erroneous. A sensation is a sensation. What may be erroneous is only the further thinking we do about what is sensed. Thus in his criticism of the above quoted Nyāya definition of *pratyakṣa*, Diṅnāga says with respect to the qualifying expression "non-erroneous" (*avyabhicārin*): "It is impossible too for the cognition-object itself to be erroneous, for error is only the content of misinterpretation by the mind." (See Hattori (1968) p. 193, section Bb. for the Tibetan text, and pp. 122–3 nn. 3.6 and 3.7 for Hattori's comments on this passage. I am inclined to agree with Hattori that Diṅnāga, unlike his interpreters Dharmakīrti et al., regarded all erroneous cognition as arising in mental misconstrual of sensation. See Hattori's note I.53, p. 95–97.) To consider the stock Indian example of erroneous cognition, seeing a mirage and taking it to be water rather than heat waves in the distance, Diṅnāga would say that it is not at the level of sensation that error occurs – for we really do sense something, i.e. we are not mistaking a sense-field for something that in fact is not a sense-field – but rather it is at the level of making a judgment that the error occurs, the error consisting in the mind's imposing upon the visual-field a concept that later turns out to have been the wrong one. For other aspects of Diṅnāga's criticism of the Nyāya doctrine of *pratyakṣa*, see Hattori (1968) pp. 36–41 and pp. 121–133, and Oliver (1978).

[17] PS I. 11, 12. More about this will be said below, section 1.32.

[18] PS I.6.

[19] PS I.7, 8.

[20] The term here is *saṁvṛtisajjñāna*, a term which underwent several subtle changes in meaning in different schools of Buddhism; its exact meaning in Diṅnāga is difficult to decide. But Vasubandhu, from whom Diṅnāga draws many of his ideas, had put forth in his *Abhidharmakośa* a criterion for differentiating "conventional entities" (*saṁvṛtisat*) from "real entities" (*dravyasat*): the former can be analysed, while the latter are irreducible. For a short comment on this distinction in Vasubandhu's system

of Abhidharma see Katsura (1976), and for a detailed account of the history of this distinction throughout the early history of Buddhist thought see La Vallée Poussin (1936–7).

21 The act of desiring is not an act of perception, but desire itself is a percept for it is a mental event and as such is directly cognizable. See above paragraph and section 1.32 below. As for whether objects have intrinsic value or repugnance, the earlier traditions of both Brahmanic and Buddhist thought had taken the more naive position that we avoid objects because those objects are inherently repugnant or desire them because they are inherently attractive. But both the Sautrāntika and Mahāyāna movements, the latter with its celebrated doctrine of emptiness (*śūnyatā*), had begun a trend of trying to distinguish the inherent features of things from our subjective attitudes and reactions towards those things.

22 A property-locus is a complex concept that comprises a notion of a property and the notion of that property's relation to something else. And since this concept is analyzable into parts, it is, by the criterion mentioned above in note 20, a "conventional entity" rather than a "real entity".

23 PS I.8–12.

24 See e.g. Stcherbatsky (19--) pp. 64–65, or Warder (1970) pp. 118–9.

25 On this matter of whether general features, universals etc., could be perceived directly, the Buddhist philosophers in general differed sharply with other schools of Indian philosophy. For an account of the course of the debate among post-Diṅnāga thinkers on the perceptibility of universals, see Dravid (1972) pp. 103–130.

26 See PS I.5. The point is made again at PS II.2. Cf. Hattori (1968) p. 27 and pp. 91–92.

27 The period of Indian philosophy before Diṅnāga's time had been one of considerable preoccupation with questions of various kinds of causality. The question of causality made up a substantial part of Buddhist exegetical (*Abhidharma*) literature and early Mādhyamaka literature as well as of the systems of "natural philosophy" such as the Vaiśeṣika system. While the Buddhist literature offers very little by way of a systematic treatment of inference, the Vaiśeṣikas, and to a lesser extent the Naiyāyikas, had dealt more fully with questions of inference based on causal relations, e.g. predictions of future effects from present causes and knowledge of past causes from present effects. For more on this see Matilal (1968). Incidentally, Diṅnāga has next to nothing to say about causal relations and inference, but his successor Dharmakīrti re-introduces the notion of causal relations as a basis of inference and in fact makes it a very important feature of his system.

28 Diṅnāga also advances other reasons against the position that the relation between the inferred property and its locus is the object of inference. See section 2.3 below.

29 The negation of the stated conclusion would follow if both Criterion Two and Criterion Three were violated but Criterion One were met. See section 1.3331 below. See also note 64 below.

30 In this case Criterion One and Three are met but Criterion Two is violated. Here the evidence has exactly the same extension as the object of inference, so naming that evidence is but another way of naming the object of inference. This case will be discussed further in sections 1.3331 and 1.3332 below.

31 *Hetucakraḍamaru*, extant only in Tibetan translation under the title *Gtan-tshigs-kyi 'khor-lo gtan-la dbab pa* in Tibetan Tripiṭaka, Peking edition, Volume 130 (Bstan-'gyur, mdo-'grel, gtan-tshigs rig-pa I) text # 5708. The Tibetan text is printed in Roman

characters in Frauwallner (1959) p. 166. The Tibetan text along with a Sanskrit reconstruction by Durgacharan Chatterji appears in *The Indian Historical Quarterly* Vol IX (1933) pp. 266–272 under the title *Hetucakranirṇaya*, and Chatterji's English translation appears on pp. 511–514 of the same volume of that journal. Another English translation and analysis is to be found on a fold-out page (unnumbered) in the back cover of Vidyābhūṣaṇa (1921). Analyses of the contents of Diṅnāga's presentation of the *Hetucakra* appear in Bocheński (1956) pp. 503–5, and in Warder (1971) pp. 178–181. But on Warder's analysis see note 35 below.

32 This refinement was achieved by the introduction of the confinement particle *eva* into the Sanskrit sentences stating these criteria. (See section 2.2(2) and note 62 below.) Bocheński (1956) p. 505 and Staal (1967) p. 523 discuss the use of *eva* in Dharmakīrti, but, since they both wrote when Diṅnāga's system was known only in its barest outlines, neither mentions its use in Diṅnāga.

33 It seems to me that Diṅnāga cannot make any stronger claim for the certainty of any given judgment than this: "This judgment is not inconsistent with previous experience" (where previous experience may be restricted practically to one's own personal experience but can theoretically be extended to include the collective experience of, say, mankind as a whole). Thus his formulation of the three Criteria amounts not to a statement of the sufficient conditions of certainty (for a given evidence could meet these criteria and still turn out later to be in a locus in which the argued property is absent), but rather to necessary conditions of certainty. Consistency with previous experience still leaves open the possibility that some new experience may arise that is inconsistent with all previous experience. Some one hundred years after Diṅnāga, Dharmakīrti tried to make stronger claims for certainty by introducing invariable causal relations as a basis for correct judgments.

34 That examples were intended as representative instances of universal propositions is clear from the fact that in the debate tradition, failure to state the universal proposition along with the example was regarded as an error in presentation. See for example the account of errors in offering examples (*dṛṣṭāntābhāsa*) in the debate manual *Nyāyapraveśa* by Diṅnāga's pupil Śaṅkarasvāmin, translated into English in Tachikawa (1970–72); the relevant sections in Tachikawa's translation are 3.3.1. (4) and 3.3.2. (4) pp. 126–8 and footnotes thereto.

35 The presentation of the *Hetucakra* in Warder (1971) pp. 178–181 is founded, I believe, on two fundamental misunderstandings as to the nature of the propositions Diṅnāga intended to be generated from his examples. First of all, I think that Diṅnāga intended to generate only true propositions from the examples, for the point of the *Hetucakra* is to show that even in cases where every proposition in an argument happens to be true, there is still not necessarily a logical relation among those propositions whereby the truth of one is dependent on the truth of another. The argument Diṅnāga uses to illustrate Position three of the *Hetucakra*, for example, contains only true propositions, but the truth of the conclusion of that argument is logically independent of the truth of the propositions from which the conclusion is putatively derived. In Warder's presentation, however, a number of false propositions are generated from the examples. (How Warder generates false propositions is by reversing the order of terms in Diṅnāga's propositions – where Diṅnāga in fact says "All x is y" Warder represents him as saying "All y is x".) And secondly, Warder generates only universal propositions from the examples, whereas I think it is clear that Diṅnāga intended not universal propositions but particular or existential propositions to be generated in those places

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where he offers two positive or two negative examples instead of the customary one, i.e. in *Hetucakra* positions 3, 6, 7, 8 and 9. This will be explained more fully in the presentation that follows.

36 The system of categories that Diṅnāga uses throughout the *Pramāṇasamuccaya* is essentially that of the Nyāya-Vaiśeṣika school. To give only the barest outline of this system, the widest category is Reality (*Sattā*); its subcategories are Substance, Quality and Action. Qualities and Actions are properties that must have some Substance as their locus. Within the category of Substance are particular objects, which may be grouped into classes on the basis of generic properties.

37 If there is nonreciprocal pervasion, there is also of course nonreciprocal promiscuity. For P_1 pervades P_2 if and only if P_2 is restricted to P_1. And P_2 does not pervade P_1 iff P_1 is not restricted to P_2. Therefore, (P_1 pervades P_2 and P_2 does not pervade P_1) iff (P_2 is restricted to P_1 and P_1 is not restricted to P_2). The left side of this biconditional describes nonreciprocal pervasion, the right side nonreciprocal promiscuity.

38 This of course is nothing new, for it amounts only to another way of expressing Criterion Three of successful evidence.

39 For a more detailed account of these points and their place in Dharmakīrti's system, see Frauwallner (1935), Stcherbatsky (1930) pp. 79–118, 181–203, 444–451 etc. or Steinkellner (1971).

40 One gets the impression that Dharmakīrti saw as his main task, especially in his most extensive work the *Pramāṇavārtika*, to reconcile Diṅnāga with Buddhist orthodoxy rather than to advance the study of logic. But to see to what extent this impression is accurate will require a very careful analysis not only of Diṅnāga and Dharmakīrti's works, but also of their respective contemporaries.

41 Hattori (1968) pp. 13–14 gives an account of the evidence on the basis of which he arrived at the probable dates of the two Tibetan translations.

42 This claim is based on three considerations. First, for any given passage, the translation of Kanakavarman tends to make better overall sense than Vasudhararakṣita's translation of the same passage. Second, of those passages of the text for which Sanskrit fragments have been identified, a comparison of the Sanskrit fragment with the two Tibetan translations usually shows Kanakavarman's rendering to be more faithful to the Sanskrit both in vocabulary and in syntax than Vasudhararakṣita's. And third, for passages of the *Pramāṇasamuccaya* quoted in Jinendrabuddhi's commentary, the Tibetan text of the commentary usually corresponds to Kanakavarman's translation both in vocabulary and sentence-structure. Moreover, the commentary often gives grammatical analyses of Diṅnāga's sentences, and these analyses most often bear out Kanakavarman's translation. Despite these general tendencies, Vasudhararakṣita's translation is by no means useless. Kitagawa's Japanese translation is generally based on Vasudhararakṣita rather than Kanakavarman.

43 The term "indicator" (*liṅga*) refers to a property that serves as evidence for another property that shares the indicator's locus. Thus the term "indicator" is virtually interchangeable with the term "evidence" (*hetu*).

44 This refers to the first chapter of *Pramāṇasamuccaya*, kārikās 8–12, for an account of which see section 1.32 above and Hattori (1968) pp. 28–31. Like the English word "inference" the Sanskrit "*anumāna*" has two distinct meanings, a) the process of inferring and b) the knowledge that results from that process. Similarly the Sanskrit "*pramāṇa*" is taken to refer to both the process of cognizing and to the resulting cognition.

[45] The field of operation of a given cognitive process is that set of objects that are knowable through that process.

[46] Jinendrabuddhi (J94b[5]) explains that perception has external objects making up its field of operation, as a consequence of which its cognitive images are vivid (*snang ba gsal ba = pratibhāsa*). But the objects of inference are not external objects but concepts, hence inference's cognitive images are vague.

[47] In Diṅnāga's system "inference" refers to (a) the acquisition of new knowledge through reasoning, and (b) the communication of what one knows through argument or discourse. The knowledge of a particular, however, which is vivid and exact, cannot be transmitted verbally, since verbal communication is necessarily vague and inexact; therefore "perception" refers only to the acquisition of new knowledge.

[48] This question arises from the perspective of Buddhist exegetical literature (*abhidharma*), according to which there are six sense-faculties (the faculties of sight, hearing, smelling, tasting and feeling, plus the faculty of thinking), six fields of operation (sights, sounds, odours, tastes, touch and thought), and an awareness of each of those six fields of operation. According to this system, the faculty of thinking can take as its object thoughts about the objects of the other sense-faculties. Hence after "visual-consciousness", which consists in the experience of some sight such as a blue colour, there arises "mind-consciousness" wherein the faculty of thinking applies a concept or name to that blue object. This same question from the *abhidharma* perspective comes up also in the first chapter of the *Pramāṇasamuccaya*, in Diṅnāga's own commentary to kārikā 4ab. See Hattori (1968) p. 26, section Daa-2.

[49] Jinendrabuddhi (J96a[1–3]) says: "There is a cognitive image of the universal that is different from the cognitive image of the particular. It is by means of that universal cognitive image that a thing is expressible, not by means of the particular. Its name is the term 'blue', but the object cognized (through that word) is definitely not the particular. Therefore this kārikā asserts 'the mind has two cognitive images'. The phrase 'by rejecting what is not blue' indicates the other cognitive image. What this means is 'by excluding non-blue from the object that those who are expressing it in language are thinking about'." Before a person speaks, his potential audience can imagine anything whatsoever as that about which the speaker is thinking. With each word that the speaker utters to express his thoughts, however, the audience is obliged to eliminate certain things from the universe of discourse, namely all those things that are logically incompatible with the "meaning" of the words uttered. After the speech is over, the audience still does not know precisely what the speaker was thinking, but the audience does know what the speaker was not thinking. "Mind-consciousness" according to Diṅnāga classifies its data in essentially the same way as an audience assimilates what a speaker has said – by grouping together under a rough classheading those data of experience that are not mutually incompatible.

[50] *Vaiśeṣikasūtra* II.1.10: *na ca dṛṣṭānām sparśa ity adṛṣṭalingo vāyuḥ*. Candrānanda (GOS edition, 1961, p. 12) says: *yadi khalv ayaṁ kṣityādisparśo 'bhaviṣyad gandharasarūpaiḥ sahopalabhemahi, na caivam, tasmāt pṛthivyādivyatiriktasya vāyor liṅgam*. See also Udayana's *Kiraṇāvalī* (GOS, 1971) pp. 56–7.

[51] According to Vaiśeṣika system of categories, there are nine basic Substances: Earth, Water, Fire, Wind, Ether, Time, Space, Soul and Mind. Inhering in those substances are various qualities, and each substance can be known by the qualities that inhere in it. Now according to this system, the quality touch inheres only in the substance Wind. Thus when one perceives touch, one can infer the particular substance Wind. In this

passage and the passages that follow Diṅnāga argues against various aspects of this Vaiśeṣika doctrine. In this passage he argues that by perceiving the quality touch one can infer only that there is *some* substance in which it inheres, since a quality must inhere in a substance; but beyond this general fact, says Diṅnāga, one can conclude nothing.

52 If it is argued that the quality touch must belong to an invisible substance, this still does not guarantee that it belongs to Wind, because Wind is not the only invisible substance. This appears to be the point of this passage, but both Tibetan translations are rather obscure here.

53 Some substances, such as Space and Soul, are regarded to be ubiquitous, so obviously several ubiquitous substances can occupy the same space. In contrast to these ubiquitous substances, some substances have the property of "resistance" whereby they exclude other substances that also have the property of resistance from simultaneously occupying their space. Now Diṅnāga argues here that objects have this property of resistance if and only if they are both tangible and visible; therefore the property touch belongs only to substances that have the property of being visible, so it cannot belong to invisible Wind as the Vaiśeṣikas suggest.

54 The credible persons here referred to are the people whose statements the followers of the Vaiśeṣika system believe. The gist of this passage is that the doctrine under discussion, namely that the quality touch inheres in the substance Wind, is based in the final analysis on the basic dogmas accepted by the Vaiśeṣika system; if one does not accept those basic dogmas, he is not compelled to accept the line of reasoning that leads to the conclusion that touch inheres only in Wind.

55 Diṅnāga's position, as argued below in section 2.1(22) and in the fifth chapter of the *Pramāṇasammucaya*, is that cognitions arising out of verbal testimony have the same fundamental structure as inferential cognitions, therefore the words "verbal testimony" and "inference" denote the same cognitive structure. But the connotations of the two terms are different; in ordinary usage, they refer to different processes.

56 This view that the whole sentence rather than the individual word is the basic meaning-bearing unit of language is accepted by Diṅnāga, who acknowledges it to be Bhartṛhari's view. (See PS V.46–49). The issue here is not, as Vasudhararakṣita ($29b^3$) and Kitagawa (1965, p. 90) have it, that the individual word is incapable of making its object known, but rather, as Kanakavarman and Jinendrabuddhi ($102a^2$) have it, that words make the sentence known which in turn conveys a meaning. In this view, individual words are useful fictions, conceptual entities arrived at through the process of abstraction, that can help us understand the meaning of a sentence, e.g. when our command over a language is insufficient to enable us to grasp the meaning of a sentence straight away. See Brough (1951) and (1953).

57 In the process of learning an object's name by having the object pointed out while its name is uttered, we simultaneously grasp its particular aspects and its general aspects. When that name is used later, only the general aspects are communicated. See $J103a^2$ ff.

58 Randle (1926) cites the Sanskrit for this; it is his Fragment E.

āptavākyāvisaṁvādasāmānyād anumānatā.

59 Kitagawa (1965, p. 93 bottom) follows Vasudhararakṣita's syntax here, which places *phyogs* and *gtso bo* as two things whose natures are denied as objects of inference. Kitagawa translates *phyogs* as standing for Skt. *diś*, "direction". But $J105a^8$ supports

Kanakavarman's translation, which makes, I think, better sense; in this interpretation *phyogs* is taken to stand for Skt. *pakṣa*, "view" or "opinion" or "thesis".

60 The fundamental metaphysical doctrine of the Sāṁkhya system is that all physical as well as sentient objects in the universe are nothing but modifications in form of a primordial substance. In the case of the metaphysical views of other systems, says Diṅnāga, there is at least some justification for believing them on the supposition that the doctrines were based on the first-hand experiences of ancient sages, who passed what they learned down into tradition. But this doctrine of a primordial substance is in another league altogether, for it is in principle impossible for it to have been witnessed first-hand. And that which has never been experienced can never, in his view, be inferred.

61 This kārikā is quoted by Uddyotakara (See Gautama, *Nyāyadarśanam* p. 301): *anumāne 'tha tattulye sadbhāvo nāstitāsati.* ("*anumāne*" should read "*anumeye*".) The expression "*tattulya*" is not carefully defined by Diṅnāga, but it evidently refers to the set of loci that are similar to the object of inference with respect to possessing the argued property. Later logicians referred to this set by the term *sapakṣa.*

62 In this seemingly simple passage, Diṅnāga makes use of a device that was eventually developed into a means of quantifying an indefinite (i.e. unquantified) proposition. The device consists in introducing the restrictive particle *eva* into the proposition. For a discussion of how this device was developed by Dharmakīrti and later Buddhist logicians, see Kajiyama (1973), especially pp. 161–164. But for an insight into how Diṅnāga used this device, our best source of information is the Nyāya philosopher Uddyotakara (Gautama, *Nyāyadarśana*, pp. 301–302), who takes great pains to point out some of the disasters that Diṅnāga is courting by introducing the restrictive particle into this discussion of the three criteria of conclusive evidence. Let us first look at how Diṅnāga uses the particle, then turn to Uddyotakara's criticisms. In the *kārikā* under discussion, Diṅnāga has stated the second criterion as follows: "The indicator is present in what is similar (to the object of inference)," (*liṅgasya*) *tattulye sadbhāvaḥ*. At it stands, this is an indefinite proposition. It can, in principle, be restricted in one of two ways. A) The subject "indicator" can be restricted to the predicate, "present in what is similar." This allows that the extension of the predicate may be wider than the subject, and it disallows that the negation of that predicate can be true of the subject. In other words, it is not the case that there exists any locus *l* similar to the object of inference such that the indicator is not present in *l*; thus, the indicator is present in *all* loci that are similar to the object of inference. This universal proposition would be written in Sanskrit: "*liṅgasya tattulye sadbhāvaḥ eva*." Diṅnāga explicitly states that he does not intend the proposition to be restricted in this manner (for it would, as Uddyotakara points out, eliminate *hetucakra* Position Eight as a form of proper evidence). B) *The indicator's presence* can be restricted to: "what is similar". This allows that the extension of "what is similar" may be wider than the extension of "the indicator's presence", and it disallows that the indicator's presence be found in any locus of the set of loci complementary to the set of loci to which "is similar to the object of inference" is truly predicable. In other words, it is not the case that the indicator is present in some locus *l* such that *l* is not similar to the object of inference with respect to possession of the argued property. But this restriction does not imply that the indicator is present in every *l* such that *l* is similar to the object of inference. This is the restriction that Diṅnāga explicitly prescribes be read into his formulation of Criterion Two of proper evidence. This, however, raises the question that Diṅnāga discusses below in section 2.2(3), a question that is brought up again by Dharmottara in his commentary to

Dharmakīrti's *Nyāyabindu* II.7 (cf. Stcherbatsky (1932) pp. 56ff), namely that Criterion Two, interpreted in this way, renders Criterion Three redundant. About this question more will be said in the following note. But let us now turn to Uddyotakara's comments on this passage. The main theme of Uddyotakara's criticisms is that Diṅnāga has been unjustifiably careless in his introduction of the restrictive particle *eva* into his interpretation of the three criteria. The gist of Uddyotakara's attack is as follows:

(a) First of all, Diṅnāga has said nothing about whether or not the indicator must occur throughout the object of inference. If Criteria Two and Three can be met either completely or partially (see section 1.3331 above), then so can Criterion One. Diṅnāga has taken care to spell out that a property can be used as evidence so long as it meets Criterion Three completely, even if it meets Criterion Two only partially (i.e., it does not occur in *any* other loci in which the argued property is absent, and it must occur in *at least one* other locus in which the argued property occurs); but no mention has been made of whether the evidence must reside in all of the object of inference or whether it is sufficient that it reside in only a part.

(b) Second, Diṅnāga has specified that the indicator's presence be restricted to what is similar to the object of inference; but this surely eliminates the object of inference itself from inclusion in the set of loci in which the indicator is present, for the object of inference is not among those loci that are *similar* to the object of inference. Thus Criterion Two, as interpreted by Diṅnāga, contradicts Criterion One.

(c) Third, it is unnecessary to state both Criterion Two and Criterion Three as Diṅnāga reformulates them. For Two says that the evidence can occur nowhere but in loci in which the argued property occurs, and Three says, redundantly, that the evidence cannot occur in loci in which the argued property is absent.

Now it is clear from the context of Diṅnāga's discussion what he intended to accomplish by introducing the restrictive particle *eva*; he intended to justify his claim that an indicator can still be proper even if it resides in only *some* members of the set of loci similar to the object of inference, but that it must be absent from *all* dissimilar loci. The importance of Uddyotakara's criticisms lies in his pointing out (successfully, I think) that what Diṅnāga actually said is not entirely consistent with what he intended to say; owing largely to these criticisms, Diṅnāga's followers were compelled to try to make his formulations more precise. And it was in making the formulation more precise that they developed the use of the restrictive particle *eva* into a sort of logical operator with functions similar to quantificational operators in European logic. Following Uddyotakara's lead, it was Dharmakīrti who came to appreciate that every proposition to be treated successfully within a system of logic must be restricted or "quantified", which might indicate that he realized that one of the weaknesses in Diṅnāga's system derived from his failure to expunge indefinite (unquantified, unrestricted) propositions from his reasoning scheme.

63 "What is incompatible with the object of inference" refers, of course, to those loci that have a property incompatible with the argued property, or in other words, to those loci that have an absence of the argued property. Thus the intention of Criterion Three, according to Diṅnāga's interpretation, is to rule out as proper evidence any property that occurs in a locus in which the argued property is absent. It is noteworthy that, in

interpreting the third criterion in this way, Diṅnāga has not adequately answered the criticism that he has anticipated here, namely the question of what this third criterion says that is not already said in his interpretation of Criterion Two. The question of whether all three criteria need to be fulfilled or whether only two (viz. Criterion One and either Two or Three) hinges, I think, on whether the statement of the criteria is intended to be a statement of the requirements for the formal validity of an argument or whether it is to be a statement of the requirements for adding something new to our knowledge. If it is to be a statement of the requirements of formal validity, then either Criterion Two or Three *as reformulated in Diṅnāga's interpretation* is dispensible, for they stand in a relation of contraposition. But that Diṅnāga was not interested solely in formal validity is clear from the fact that he does not regard an argument of the form represented by *hetucakra* Position Five as a proper argument. (See section 1.3331 above and section 2.2(7) below). And his apparent reason for not including arguments of this form among proper arguments is not that they are formally invalid, but rather that they produce analytically true conclusions, i.e. conclusions that do not consist in additions to our knowledge. Now there is one other point well worth remembering in connection with the question of whether two or all three of the criteria need to be stated, and that is that we find in Diṅnāga's text not one but two formulations of the three criteria of conclusive evidence, namely the formulation that appears in the *kārikās* and the reformulation that appears in his prose commentary. These two formulations do not have the same logical status. The *kārikā* formulation contains unrestricted propositions, i.e. propositions without the particle *eva*. This *kārikā* formulation is essentially the formulation that Diṅnāga received from his forerunners, and its main intention seems to be to state the requirements for adding something new to our knowledge. In the *kārikā* formulation, Criteria Two and Three do not stand in a relation of contraposition. The commentary formulation, on the other hand, contains the *eva*-restricted propositions and may reflect an emerging awareness of a distinction to be drawn between purely logical considerations and epistemological considerations. In the commentary formulation, Criteria Two and Three do stand in a relation of contraposition, and hence the statement of just one of these criteria in conjunction with Criterion One should suffice to state the requirements for formal validity. It seems quite likely that Diṅnāga himself did not fully appreciate the implications of this shift in emphasis brought about by his reformulation of the three criteria. This whole topic, incidentally, is treated at greater length in a forthcoming article by B. K. Matilal entitled "An Interpretation of the Triple Character of Reason in Indian Logic," in which Uddyotakara's criticisms of Diṅnāga's commentary formulation of the three criteria is discussed along with several possible re-interpretations of the three criteria (or, as Matilal calls them, "the triple character"). Many of the statements in this and the immediately preceding footnote reflect ideas generated by reading an early draft of the forementioned article and by a variety of discussions on these issues with Prof. Matilal and with Mr. Brendan S. Gillon.

[64] J108b[3]: *ji ltar rtags kyi yul can gyi shes pa* (= *liṅgaviṣayaṁ jñānam*).

[65] The idea here is that the indicator and the person who knows it together constitute sufficient conditions for cognition of the indicator. If this were not so, i.e. if a variety of other conditions were also necessary to produce cognition of an indicator, then the absence of any one of these conditions would mean the absence of cognition of the indicator; in such circumstances one could not take cognition of the indicator for granted just on the grounds of the indicator's presence. But in fact, argues Diṅnāga, no other such conditions are necessary. Following a general principle whereby stating

the sufficient causes of a thing is as good as mentioning the thing itself, Diṅnāga concludes that the presence of cognition of an indicator, which cognition is a key element in inference, goes without saying once one has mentioned the indicator itself.

66 The original Sanskrit for this *kārikā* has been discovered by Chatterji (1929–30):

kṛtakatvād dhvanir nityo mūrttatvād aprameyataḥ/
amūrtaśrāvaṇatvābhyām anityaś cākṣuṣatvataḥ//

That these six examples represent every possible form of evidence considered improper in Diṅnāga's *hetucakra* is shown in the following chart. The positions on the *hetucakra* represented by each of these examples is given in the final column; since the *hetucakra* applies only to those indicators that satisfy Criterion One of proper evidence, we can assign *hetucakra* position O to those indicators that fail to satisfy this criterion.

Object of inference	inferred property	evidence	criteria met? 1	2	3	*hetucakra* position
	that it is	that it is				
1. sound	permanent	produced	yes	no	no	4, 6
2. sound	permanent	corporeal	no	yes	no	0
3. sound	permanent	unknowable	no	no	yes	0
4. sound	impermanent	incorporeal	yes	yes	no	1, 3, 7, 9
5. sound	impermanent	audible	yes	no	yes	5
6. sound	impermanent	visible	no	yes	yes	0

67 The Sanskrit fragments for the next four kārikās are quoted from Vācaspati Miśra's Tātparyaṭīkā (see Gautama *Nyayadarsana*, p. 320) by Vidyābhūṣaṇa (1921) pp. 281–2, Randle (1926) p. 18, and Matilal (1968); Matilal also provides information on how the verses were discussed by Vācaspati and later Naiyāyika commentators, and on the basis of this information suggests alterations in Randle's tentative translations. The Sanskrit kārikās read:

8 *kecid dharmāntaraṁ meyaṁ liṅgasyāvyabhicārataḥ/*
saṁbandhaṁ kecid icchanti siddhatvād dharmadharmiṇoḥ//
9 *liṅgaṁ dharme prasiddhaṁ cet kim anyat tena mīyate/*
atha dharmiṇi tasyaiva kimarthaṁ nānumeyatā//
10 *saṁbandhe 'pi dvayam nāsti ṣaṣṭhī śrūyeta tadvati/*
avācyo 'nugṛhītatvān na cāsau liṅgasaṁgataḥ//
11 *liṅgasyāvyabhicāras tu dharmeṇānyatra diśyate/*
tatra prasiddhaṁ tadyuktam dharmiṇaṁ gamayiṣyati//

Note: Some quotations of kārikā 11 read *dṛśyate* for *diśyate*, but the Tibetan translations all support the latter reading, using various forms of the root *ston*, "to teach, to show".

68 Jinendrabuddhi (J110a[4]) and Kitagawa (1965) pp. 106–7 interpret this passage as

follows. For an inference to be correct, the evidence (smoke) and the inferred property (fire) must reside in the same locus. Now when making an inference we do recall the relation of the evidence and the inferred property, but relata are the loci of a relation, not vice versa. Thus if the relation itself is regarded as the object of an inference, then the evidence, since it cannot reside in that object, would fail to meet Criterion One of proper evidence.

69 See J110b⁶ff.

70 The point of this passage if to show that the indicator and the property inferred through it must be universals. The reasoning as explained in Jinendrabuddhi's Ṭīkā (J113b³–114a³) goes something like this: At the time when we observe smoke and fire together, we necessarily observe a particular instance of smoke (S_1) with a particular instance of fire (F_1). That instance of fire (F_1) is never seen with any other instance of smoke (S_n, $n \neq 1$). Now suppose the property to be inferred were just that particular instance of fire (F_1). Since every subsequent instance of smoke ($S_2, S_3, S_4 \ldots S_n$) is as absent from (F_1) as they are absent from places where there is no fire at all, we should never be able to infer the presence of the fire (F_1) from the indicator (S_n). Therefore, if there is any inference at all, it can only be of a universal fire-in-general. By a similar line of reasoning, it can be shown that the indicator can function only as a universal. For the particular instance of smoke (S_1) is as absent from ($F_2, F_3, F_4 \ldots F_n$) as it is absent when there is no fire at all, and not being related to (F_n, $n \neq 1$) it can of course never be the grounds for inferring it.

71 This passage is rather obscure in both Kanakavarman and Vasudhararakṣita, so I have had to rely entirely on Jinendrabuddhi's paraphrase at J114b⁶ff. The passages under discussion read as follows:

K113b¹: *gnyis nyid la sogs pa du ma dang/ thun mong ba rnams kyi rten ma bzung bar 'dzin pa ni mthong ngo/ gang dag 'dra ba phyir smra ba'i 'dra ba'ang ma yin no/*
V32a⁴: *du ma rnams las gnyis nyid la sogs pa'i thun mong ba ni yod pa ma yin no/ gang dag spyi mthog zhing gzung pa po yang rten ma gzung pa po dang mtshungs shing 'dra bar 'gyur ro/*

72 Each school of Indian philosophy had its own way of dealing with the puzzle of how a universal, construed as a single, undivided, unchanging entity, can reside in a plurality of changing entities. This topic comes up for discussion at greater length in the fifth chapter of the *Pramāṇasamuccaya*. But here Diṅnāga confines himself to pointing out difficulties in accepting the view that universals are real entities that exist in addition to the particulars in which they are supposed to inhere. For more on how Diṅnāga's school and other schools of Indian philosophy treated universals, see Dravid (1972).

73 These two verses summarize what we might call Diṅnāga's *indication relation*, and they show that this relation is transitive, i.e. if P_1 indicates P_2 and P_2 indicates P_3, then P_1 indicates P_3. One property P_1 indicates another property P_2 if and only if P_1 is restricted to P_2, that is if P_1 occurs only in loci of P_2. If P_1 is restricted to P_2, then in Diṅnāga's terminology P_2 is "necessarily related" (*rjes su 'brel ba = anubaddha*) to P_1. Restriction is nonsymmetrical; if P_1 is restricted to P_2, P_2 may or may not be restricted to P_1. The nonsymmetry of this relation is the subjectmatter of the following section, 2.5.

74 The Sanskrit original for this verse has been discovered by Katsura (1975):

> *saṁbandho yadyapi dviṣṭaḥ sahabhūliṅgaliṅginoḥ/*
> *ādhārādheyavad vṛttis tasya saṁyogivan na tu//*

[75] Summarizing what Diṅnāga has said concerning three kinds of relation that may be said to exist between two properties, P_1 and P_2, namely 1) an indication relation (*liṅgaliṅginoḥ sambandha*), 2) restriction (*avyabhicāra*) and 3) pervasion (*vyāpti*), we can say:

(1) P_1 indicates P_2 iff P_1 is restricted to P_2.
(2) P_1 is restricted to P_2 iff P_2 pervades P_1.
(3) If P_2 pervades P_1, then the absence of P_2 is restricted to the absence of P_1.
(4) P_1 indicates P_2 iff absence of P_2 indicates absence of P_1.
(5) These three relations are transitive.
(6) These three relations are nonsymmetrical therefore it is not necessarily the case that if P_1 indicates P_1, then P_2 indicates P_1.

[76] The original Sanskrit terms are likely to have been either these words or their synonyms. In many cases the Sanskrit terms are verified by fragments from either this chapter or other chapters in *Pramāṇasamuccaya*. For terms not verified specifically for the *Pramāṇasamuccaya*, relatively safe conjectures can be made on the basis of comparing other Sanskrit Buddhist texts on logic with their Tibetan translations. The following sources are very useful for this purpose.

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